

## A NEW CITY

*A study of urban development in an area including Newbury, Swindon and Didcot*  
prepared by Lilianlyn-Divina Weeks and Partners

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## FOREWORD

This study, which was commissioned in March 1963 by the Minister of Housing and Local Government, Berkshire County Council, Wiltshire County Council and Swindon Borough Council, arose from the proposal in the South East Study that Newbury and Swindon should be areas of major expansion.

The views expressed and the recommendations made in the report are those of the Consultants. The commissioning authorities are in no way committed by the Consultants' findings.

The report is published at this stage to allow the issues to be considered by the local authorities and others interested in the proposals.

Ministry of Housing and Local Government

December, 1963



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1. The present study was commissioned on 2nd April, 1965, and the report presented in December 1965. Both the actual study and the form of the report closely follow the terms of reference under which it was commissioned. This report is the work of Llewelyn-Davies Weeks and Partners, consulting architects, in association with Sylvia Cross and Associates, Professor G. P. Whithering and Professor E. Jones. While Llewelyn-Davies Weeks and Partners were originally commissioned to undertake the study, the associated consultants, as well as being concerned with specific sections of the report, share the general conclusions which have been reached.

2. A comprehensive description and analysis of the study area is included in this report. An analysis is made of the area within its regional setting. Existing and planned transport facilities are mapped and described. The physical nature of the area, including gravel deposits and areas liable to flooding, is described. The agricultural land of the area is examined in terms of its productivity and value. Areas of high landscape value and scenic beauty are identified and mapped. The demography of the area, both present and past, is investigated and future trends discussed.

3. Consideration is given to the possibility of absorbing the planned population in a diffused pattern of development. The inability of such a pattern to meet the social and economic objectives implicit in the South East Study, together with the threat it would pose to communities in the study area, causes us to reject such a pattern of development and to seek a location where a major single development, or closely linked developments, could be achieved.

4. It is found that the study area as a whole is well situated to accept a substantial increase in population of the order of magnitude referred to in the terms of reference, and that sufficient suitable land for building is available for this purpose. In reaching this conclusion account is taken of the position of

the study area in relation to future plans of development, regional and national, in relation to existing towns and cities including new and expanded towns in South East England, and in relation to its distance from London. In this last connection it is found, on demographic grounds, that the eastern boundary of the study area is too near London to be a suitable site for massive new development and for this reason a new city at or close to Newbury is rejected.

5 Other parts of the study area are also considered as possible sites for development, either for a single town or city or for linked development. The only area that is available for development, on the scale envisaged in the terms of reference, without damage to the landscape and natural amenities of the area, and without loss of very high quality agricultural land, lies around Swindon.

6 Thus, on negative grounds the Swindon area is found to be the only possible one for development within the terms of reference for the study. But there are also overwhelming positive reasons for regarding Swindon as the best place for a new city. These include its key position on the M4, its position on the main railway to the west, scheduled for development under current British Railways' plans, and its geographical position in relation to London and other surrounding towns and cities. Further the likely development of a major new national port, at Southampton or on the Severn, will reinforce the importance of the Swindon area in the future. On all these counts the area around Swindon is found to be an exceptionally good site for major development. Swindon itself is already a vigorous, expanding town and its history in recent years lends weight to the conclusion that it is sited in a position favourable for economic growth.

7 We therefore recommend that planned development should take place in the Swindon area to absorb an increased population of 125,000 by 1980, rising to about 340,000 by the end of the century. Taking into account the present population of Swindon, and the immediate surrounding area, this will result in a total population in the new city of about 350,000 by 1980, and perhaps over 400,000 by the end of the century.

8 The recommendations concerning the actual siting and form of the new development in the Swindon area are arrived at through examination of all the areas available for development. In the light of both regional and local considerations areas to the east, north and west of the existing town of Swindon are considered as possible sites for major new development,

9 We recommend that a study for the planning of a new city, of which Swindon will be a part, should be immediately commissioned. We consider that this study need not wait for decisions as to the best administrative structure under which the development will eventually proceed. The task of bringing into being a great new city at Swindon, of which existing Swindon will form part, is a new one and there is no exact parallel in the development of new towns or of expanded towns.

10 In reaching the conclusions described above a major part in our thinking has been played by the magnificent landscape and high agricultural value of great tracts in and around the area of study. We consider that the area is now under such pressure from urban development that it is an urgent matter to take steps to save these areas for the population of the future. We have made recommendations in chapter 8 for the area as a whole. These include proposals for the restriction of development in many areas in the interests of preserving landscape and areas of high agricultural value and providing for recreational needs. We recommend that these areas should be made the subject of urgent study. Following such a study, we would hope that large defined tracts of country in and around the study area would then be made subject to stringent development control, designed to protect their amenities for the indefinite future. We consider that the preservation of the landscape in the study area is vital, not only to the inhabitants of the area but for those who live in the region and, indeed, for the nation as a whole.



Area bounded by Hungerford, Thatcham,  
Didcot and Swindon

11. Following the publication in 1944 of the South East Study we were commissioned to investigate some of the suggestions made in that report. We were commissioned jointly by the Ministry of Housing and Local Government, the Committee of Berkshire and Wiltshire and the Borough of Swindon in a letter dated 2nd April 1945 to investigate the feasibility of planning a major development within the area bounded by Hungerford, Thatcham, Didcot and Swindon (Map 1). This area was one of the three proposed in the South East Study for major new developments.

12. A committee was established under the chairmanship, first of Mr. Robins and later Miss Hope-Wallace of the Ministry of Housing and Local Government. The committee consisted of officers of the Ministry, Berkshire and Wiltshire County Councils and of the Swindon Borough Council. This committee met three times during the course of the enquiry and discussed progress with us. Before embarking on the study, we held meetings with members and officers of the Berkshire County Council, the Chairmen and officers of the Rural and Urban Districts of Berkshire, with officers of the Wiltshire County Council and with officers of the Swindon Borough Council. At these meetings the methods to be pursued in the study were discussed and agreed with the members and officers of the various commissioning authorities. A discussion also took place with the Chairman of the Agricultural Committee covering the study area.

13. With the approval of the commissioning authorities, we invited the participation of a number of associated consultants. Sylvia Cross and Associates were asked to report on the landscape aspects of the area. Professor G. P. Whitaker, M.Sc., Ph.D., Hon. AMFT, Professor of Rural Economy at Wye College, University of London, was asked to make a study of the Agricultural significance of the area and Professor Emyr Jones, M.Sc., Ph.D. (Wales), Professor of Social Geography at the London School of Economics, was asked to make a demographic study of the population in the area. These associated consultants each made their own independent study of the area, prepared reports and made

South East England boundary  
(ref. South East Study)  
Area bounded by Hungerford  
Thatcham Didcot and Swindon





recommendations. They also participated with ourselves in many general discussions as to the broad conclusions of the enquiry and associate themselves fully with the final report.

14. The essence of the study was to make a broad appraisal of the area in the light of the terms of reference and to produce as an early date a recommendation which could form the basis for action. For this reason the time allowed for the enquiry was short and precluded the collection of any substantial amount of new data by direct survey. Instead, for detailed factual information, reliance was to be made on published sources. In making a general study of the area, however, we and our associated consultants made frequent visits to the study area during the course of the enquiry and discussed various aspects of the problem with a number of local and national authorities. A list of the authorities and organisations with whom discussions were held will be found at the end of the report. We would like to acknowledge the willing and enthusiastic help we have been given by all those we have consulted and especially by officers of the Ministry of Housing and Local Government and of the three local authorities directly concerned with the enquiry.

15. Our terms of reference were as follows:-

1. The South East Study suggests (chapter 13, paragraphs 18-19) that plans should be made for a population increase in the Newbury/Sungerford area of about 140,000, with possible later growth to 240,000, of which 75,000 should be achieved by 1981. The nearby town of Swindon is also suggested for expansion to take an additional population of 80,000 by 1981, rising later perhaps to 75,000. Thus the Study contemplates a total additional population of 240,000, rising possibly in the long term to over 300,000 for the area as a whole.
2. The main consideration leading to these proposals was the strategic advantage of siting large new developments in the Newbury and Swindon areas, with their motorway and railway communications, and their potential, therefore, for successful growth. Other factors to be taken into account, however, include:-
  - (a) the importance to the South East strategy of achieving attractively designed new developments capable of becoming

large centres of economic and social growth closely related to the main communications network;

- (b) the high agricultural quality of much of the land in this area;
- (c) the fact that the area contains many parts of great natural beauty serving the needs of a much wider population than the people who live in them;
- (d) the desirability of preserving the prosperity and, as far as practicable, the character of existing towns in the area.

3 The consultant is required:-

- (1) to examine and report on the feasibility of these provisional suggestions for the disposition of approximately 200,000 additional people in the area bounded by Hungerford, Thatcham, Didcot and Swindon (taking account of such adjoining areas as are necessary), and to make recommendations for the general location and form of development within this area, including the possibility that the development might take the form of a number of smaller but linked developments;
- (2) to examine and report upon the following questions:
  - a. allowing for the existing and likely development at Reading, Oxford, Andover and Basingstoke (with a possible total population of 750,000) how far is it desirable to develop the area lying in between?
  - b. how far could Swindon itself be satisfactorily developed as an alternative to large new development elsewhere in the area of survey?

4 The consultants' report should be submitted to the Minister and the County Councils and Borough Council not later than 1st December 1965.<sup>1</sup>

16 Whereas in the South East Study a tentative proposal was made for a new city in the Newbury/Hungerford area, coupled with some expansion at Swindon, the terms of reference for the enquiry are wider. We are asked to examine the whole of the area referred to in the terms of reference for potential sites for a new city or for a number of linked settlements without special emphasis on Newbury itself.

17 The South East Study makes it clear that up to 1961 the area to be studied would have to absorb the proposed increases resulting from planned expansion designed to draw off population from the metropolitan area in addition to its share of the 'estimated population changes' (1). After discussion with the Ministry of Housing and Local Government, the population figures to be assumed for the purpose of the present enquiry were established as follows in the table. These and other population figures used in this report have been taken from the South East Study although its forecasts have not been accepted by all the local authorities affected.

TABLE 1

Estimates of population (2)

Area	1961 population	Increase through population change 1961-81	Increase through planned expansion 1961-81	Estimated total 1981	Estimated population increase through planned expansion subsequent to 1981
Verbaline (out- side Metropolitan Region)	154,466	46,000	75,000	275,466	-
Swindon M.D.	98,000	14,000	50,000	164,000	-
Total	244,466	64,000	125,000	433,466	175,000-200,000

(1) Compiled from data in The South East Study which does not include figures for Wiltshire



Study area in relation to major  
administrative boundaries  
in Southern England

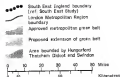
15 The study area, for the purposes of physical and demographic description and analysis extends beyond the area defined by the four towns of Hungerford, Thatcham, Didcot and Swindon, to include much of Berkshire and parts of Hampshire, Wiltshire, Gloucestershire and Oxfordshire.

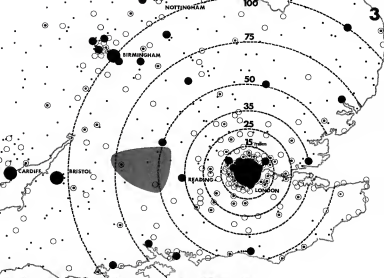
16 Map 2 shows the study area in relation to South East England, as defined in the South East Study, and the London Metropolitan Region. The approved Metropolitan Green Belt and the proposed extensions to the green belt are also shown in this map.

#### POPULATION CHANGES IN THE REGION

20 The terms of reference to the present study arise out of the publication in 1964 of the South East Study by the Ministry of Housing and Local Government. In the South East Study the general problem of South East England was set out. The Study argued that there would be a substantial increase in population in South East England in the 20 years up to 1981. This population growth was estimated at 1½ million. This growth was seen as having two components, a little over 1 million migrants and a little less than ½ million by natural increase. Since the Study was published there have been reports by the Technical Panel of the Standing Conference on London Regional Planning (2, 3), which broadly speaking takes a similar view of the problem. It does therefore appear that the increase in population envisaged in the South East Study will take place and must be planned for. If no major social intervention is attempted it is foreseen that a large part of this increase would take place as close as possible to London. The general result would be continued building-up in successive rings outside the present green belt.

21 The South East Study pointed out that there could be no further increase in the population of the London conurbation within the green belt and that this would





Map 2

Study area in relation to pattern of settlements in Southern England



Area bounded by Hungerford  
Thamesham, Ditcher and Swinton



result in a substantial overflow estimated at about one million people between 1961 and 1981. This view has been reinforced by the publication of the Reports by the Standing Conference on London Regional Planning. It is generally agreed that the continued building up of the London area around the green belt must be prevented. If it should take place the resulting transport problems appear insuperable and the loss of open country for recreation and agriculture would also be disastrous. The South East Study, in chapters 10 and 11, proposed a general strategy to meet this situation. This strategy consisted primarily of the expansion of existing towns and the development of new ones in areas sufficiently distant from London to relieve some of the pressure on the metropolis. These proposals included the development of three 'new cities' in the Southampton/Portsmouth area, the Bournemouth area and the Newbury area.

22 While the programme put forward in the Study is ambitious, and involves massive national investment, it only goes part of the way to meet the problem. It was envisaged in the Study that the programme of new and expanded towns would provide for about one-third of the predicted population growth in the South East by 1981 (roughly 1½ million). The remaining two-thirds of the population growth (about 2 million) would have to be accommodated by the allocation of more land to the development plans of local planning authorities. Thus when we come to consider any defined area, such as the area with which this study is concerned, there are two components to the population problem.

Planned expansion at certain centres (6)

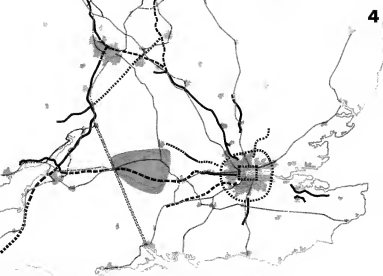
'Population change' over the whole area (6)

The former is regarded by the South East Study as covering much of the over-spill and migration (6). The latter includes natural increase outside the conurbation and growth by 'other causes.' This is defined as over-spill from London outside planned schemes, migration for retirement and a contingency allowance (7).

#### PATTERN OF SETTLEMENTS IN THE REGION

23 Map 2 shows the study area in relation to the location and distribution of settlements within Southern England. When discussing the distribution of settlements it is probably most convenient to think of them as being organised into





Study area in relation to existing and  
proposed major transport routes  
in Southern England



rank of an hierarchical system. This concept is frequently used by geographers who refer to villages, towns, cities as centres 'of different orders.' (5) Their position in rank depends on the size and extent of their 'hinterland' or surrounding areas for which they provide major shopping, entertainment, cultural, professional and similar services. It is important to note that, in general, a centre included in one of the higher orders also carries out for a less extensive area functions characteristically associated with centres of a lower order.

24 The rank order adopted for the purpose of present analysis (5) is the following:

the national centre (London)	=	first order centre
large city centre (Bristol)	=	second order centre
regional centre (Oxford)	=	third order centre
sub-regional centre (Bathurst)	=	fourth order centre
centre of immediate hinterland (Newbury)	=	fifth order centre
local centre (Maidenhead)	=	sixth order centre

25 It will be seen that centres extending over the whole range are represented in the area. This range extends from places of only limited local significance to those whose influence is regional and, in the case of London, national and international.

26 London is the only first order centre and clearly has no rival either within the region or nationally. Next in rank are second order centres, such as Bristol, Cardiff, Birmingham and Nottingham, situated on an arc about 100 miles from London. This is because London is sufficiently dominant a centre to prevent the growth of second order centres closer than this to itself. Most of the third order centres external to London are located between 50 to 75 miles from London and form an intermediate ring of settlements between London and the second order centres. The inability of independent third order centres to develop nearer to London should be noted. A conspicuous exception is Reading which falls almost

on the 38 mile line from London. The ability of Reading to survive as close to London at this order in the hierarchy can be traced to its historical and geographic position. The distribution of all the lower order centres can be seen on the map. In general these tend to locate around regional and other higher order centres.

#### COMMUNICATIONS IN THE REGION

17 Map 4 shows the study area in relation to existing and proposed transportation routes within Southern England. The railway routes shown are those selected for development by British Railways (18). It should be noted that the study area (through Didcot) is linked directly by rail to the currently proposed channel tunnel outlet at Ashford. Motorway routes shown are those which currently form part of the Ministry of Transport programme or are under consideration by them, with the exception of the link shown between Birmingham and Southampton (11). This new road, for which we have shown a possible line, represents the new link foreshadowed in the South East Study between Southampton and the West Midlands.

18 The need for this link is foreseen as a consequence of the present proposals for major improvement in the port (12), and for large-scale urban development in the Southampton/Portsmouth area (13). Although the A36, the greatest link between the West Midlands and Southampton, has been proposed for improvement to dual carriageway standards over part of its length, a new north-south motorway connecting these two areas would seem to be needed in the future. The exact alignment for such a route should be a matter for further investigation, and possible routes are discussed later (14).

## HISTORY

28 Prehistoric remains are found extensively in all parts of the area and especially in the western portion, where evidence exists of a major concentration of neolithic, bronze-age and iron-age population. Roman settlement took place at many places within the study area and particularly near Ermine Street, the Roman road from Carlisle to Winchester, and near another Roman road branching east off Ermine Street towards Winchester. Saxon farmers began the clearing of forests, characteristic of the area at that time, and established the agriculture which has since been the main source of wealth in the area.

29 Domesday records record the existence of trading towns at the converging of roads at Newbury, Hungerford and Faringham and more substantial settlements at Abingdon, Reading and particularly Wallingford, all related to the Thames. The chalk downsides have always afforded excellent pasturage, and during the Middle Ages and up to the eighteenth century these downs supported high quality sheep, and thence the rich cloth manufacturing centres at Abingdon, Reading and Newbury.

30 Early industrial activities included tanning, brewing and gun and gun-making at Reading - a town favoured both by its position on the Thames and later by the development of railways in the nineteenth century. The late eighteenth century efforts at canal building produced the Kennet and Avon Canal, the Wiltshire and Berkshire Canal and a navigable link from the Severn to the Thames. These were soon followed and rendered obsolete by the construction of the Great Western Railway which established major locomotive workshops at Swindon, astride the main western line.

31 A pattern of specialised but not major industrial development in the study area has continued to this day. A notable instance has been the development



## Administrative and statistical sub-divisions

from the late 18th onwards of the U. K. Atomic Energy Research Establishment at Harwell. Twentieth century agricultural developments have again favoured the downlands (for cereal production) and the predominant impression of the study area is one of a strong agricultural land penetrated rather infrequently by attractive market towns.

## ADMINISTRATIVE SUB-DIVISIONS

23 Map 5 shows relating administrative sub-divisions and boundaries within the study area in the following categories:

County

County Borough

Municipal Borough

Urban District

Rural District

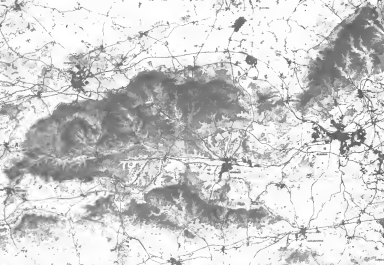


24 The map also shows parts of the limits of South East England as defined in the South East Study and of the Metropolitan Region. The boundary of South East England in relation to the study area indicates that Bedford and its immediate environs fall outside the limit of the South East Study area. The proximity of the eastern part of the study area to the London Metropolitan Region, which probably relates to the edge of the London commuter zone, can be noted.

## TOPOGRAPHY

25 Map 5 shows the topography within the study area. A ridge of downlands (the Marlborough, Lambourn and Berkshire Downs), crosses the study area from west to east reaching an elevation of over 800 ft. in places along its northern escarp. To the north of these downs, the Vale of the White Horse and the Upper Thames Valley are separated by a low ridge. North of the Thames Valley lie the Cotswolds. To the south of the escarp the characteristic gently rolling land form falls slowly to the valley of the Kennet. South of the Kennet are the Hampshire Downs rising to nearly 1,000 ft. and forming the southern boundary





## RIVERS AND FLOOD AREA

36 The principal river systems in the study area, the Thames and its tributary the Kennet, are shown on Map 7. This map also shows the extent of areas liable to flood as derived from levels observed in 1947 (28). It should be noted that where major improvements to a stream have been made in the course of urban expansion since 1947 (for example to the upper reaches of the River Cole) information concerning flood levels is not given.

## THE PATTERN OF SETTLEMENT DISTRIBUTION

37 The location and distribution of settlements within and around the study area is shown on Map 8. It can be seen that the major towns are located at the edges of the study area and that a considerable extent of relatively unpopulated land occupies the centre. Reference to Map 3 will show that close to the study area there are two cities of 'third order' rank - Oxford and Reading. Within it there is one town of 'fourth order' rank - Swindon - and a number of 'fifth order' settlements. A brief description of the important towns and of some smaller villages is given below.

38 Oxford, with a 1961 population of 188,008, and neighbouring Cowley have together become a major industrial as well as a cultural centre. Oxford serves, with some difficulty, as a major commercial centre in the region as well as acting as a national centre for education and publishing. The conflict between the demands made by population growth and the historic fabric of the city has resulted in serious traffic problems, as yet unresolved. A green belt has been established in an effort to limit further development. The continuing expansion of the motor industry and the growth of scientific research and development establishments will result in further pressure on Oxford.

39 Reading, the other city of 'third order' rank close to the study area, is a County Borough with a 1961 population of 188,000. Its early growth as a market town and industrial centre can be traced to its position on the Thames and later to its location on two major rail routes. Its activity today is boosted up with the London Metropolitan Region, of which it is a vigorous part. The main industries include food and drink manufacture and engineering. Reading enjoys a considerable



peaks above 800

800-900

700-800

600-700

500-600

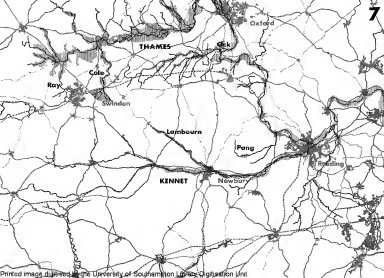
400-500

300-400

200-300

below 200





## Rivers and areas liable to flood

40 Reading has carried plans for the redevelopment of the town centre, for slum clearance and for internal road improvements. Relatively little undeveloped land suitable for residential use remains within the County Borough boundary and competition is east and central Berkshire and nearby Oxfordshire house population working in Reading.

41 Swindon Municipal Borough had a population of 51,700 in 1961. Much of its growth in the previous decade and during the years since has resulted from an arrangement with the London County Council whereby Swindon receives London overspill population under the Town Development Act, 1955. Parallel with this growth in population there has been a successful effort to diversify employment. New industries have been brought in, and dependence on the railway workshops as the principal employer has diminished.

42 The Wiltshire County Development Plan estimates the 1971 population of the Borough as 504,544. Swindon Borough Council considers that the total population within the Borough will not materially alter between 1971 and 1981, as the Borough will shortly be almost entirely built up (46). A comprehensive redevelopment scheme for the central area of Swindon is now in its first phase. The Wiltshire Development Plan anticipates that by 1981, when this scheme is completed, it will act as a commercial and civic centre serving a possible total of 175,000 population in Swindon and the surrounding districts (47).

43 Worcester Municipal Borough had a population of 24,400 in 1961. Traditionally a market town, it owes its more recent growth to the development of defence installations at Aldermaston, and to manufacturing at Titchborn, both nearby communities. The current programme of by-pass road construction and town centre development will relieve the attractive core of Worcester of some of the present traffic burden.

44 Abingdon Municipal Borough had a population of 14,300 in 1961. It has experienced major growth in recent years, particularly as a result of Oxford's growth. The local industries include motor car manufacture and printing. The old centre of Abingdon is an exceptionally beautiful example of a riverside town. Land for residential development remains within the borough but is limited, and in the last ten years house building has been taking place in small towns and





## Location and distribution of settlements

44. Oxford, a parish of Wallingford Rural District, with a 1961 population of 11,393, is essentially a twentieth century town and developed in association with railway and military depots. The more recent growth in population has been due to the AENE at Harwell and to its proximity to Oxford. The pressure and nature of recent development have had an adverse impact on the appearance of Oxford and on the landscape character of the surrounding country. A major part of the former military depot is now the site of a new 1640 megawatt coal-fired power station for the Central Electricity Generating Board.

45. Hungerford in the Kennet Valley is a parish of Hungerford Rural District and had a population of 3,342 in 1961 and had shown only a slight gain over the previous decade. It is an attractive river-side town set in a field in the Downs and is surrounded by agricultural areas of high landscape value.

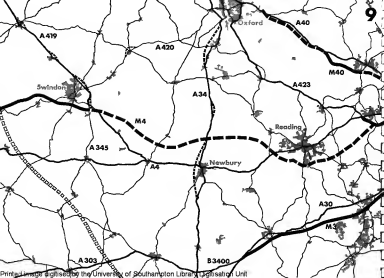
46. Wantage Urban District had a population of 4,646 in 1961. Along with the neighbouring parish of Grove it has received considerable growth in recent years. The market place is exceptionally attractive but now subject to excessive road traffic. The old buildings of Wantage are set and hidden in trees which contain the old town within the structure of the landscape. Views from the Downs are not impaired by the old town, around which the landscape of the Vale of the White Horse flows. Unfortunately, recent housing developments at Wantage are interfering with that view and thus are accompanied by lack of trees. Suggestions have been made that Wantage and Grove might be expanded by development to the north and north-west, increasing the total population to 14,000 - 15,000.

47. Faringham, with a 1961 population of 3,468, is an old established market town. It stands on a slight ridge with agricultural parkland falling from the town towards the Thames. The centre of the town is particularly attractive but is very adversely affected by heavy through traffic. New housing has been developed to the south and east of the town.

## MAIN ROADS AND PROPOSED NEW ROADS

48. Map 9 shows the existing main roads in the study area and current proposals for improvements. It shows, in addition, a possible route for a new major north-south motorway connecting the Midlands to Southampton.





## Main roads and proposals

50 The major existing road in the study area is the A4 linking London to Bristol and crossing the area from east to west. Other important trunk roads are the north-south A34 through Newbury linking the Midlands with Southampton and the A418/A345 (the Roman Ermine Street) linking the West Midlands and Gloucester/Cheltenham with southern England. Improvements have been proposed for both of these roads, but with the exception of a by-pass to East Itley on the A34 there are no major improvements scheduled as the current Ministry of Transport programme up to 1970. Improvements which have been proposed include construction of by-passes on the A34 to avoid Abingdon, Didcot and Newbury, as shown diagrammatically on Map 9. The proposed improvements to the A418/A345 north from the junction with the M4, including a new by-pass east of Stratton St. Margaret and a new by-pass at Cricklade and Cirencester, are also shown. A proposed relief road on the A426 to avoid Faringdon is indicated.

51 The London - South Wales motorway, the M4, will cross the study area from east to west along the route shown (as currently proposed) on Map 9. It is expected by the Ministry of Transport that the M4 will be completed from the Severn Bridge to Swindon by 1971 and from Swindon to the existing M4 at Maidenhead by 1973.

52 A new motorway between the Midlands and Southampton was suggested in the South East Study (48). This link would support the suggested development of the Southampton/Portsmouth area, both as a major port and as a centre for planned expansion of the population. In the South East Study it was indicated that the location of this new road link might lie along the route of the A34 and accordingly cross the M5 north of Newbury. Extended north, a motorway in this location would presumably tie into the existing motorway network by joining the Midland link between M1 and M6 in the vicinity of Coventry.

53 Our examination indicates that a location further to the west (see above on the map), tying into the M5 in the vicinity of Cheltenham, would offer a number of advantages over the suggested location along the line of the A34. A motorway along a line from the M5 at Cheltenham to Southampton would be somewhat shorter in new road mileage and it would offer more direct access to the West Midlands/industrial area. In the short term it would provide a strong alternative link between hinterlands of the M5 (the West Midlands) and the M4 (London and the south-east). In the long term, and with the construction of the London south orbital and other major connections, it would provide a strong link between the west

-  Motorway (as laid)
-  Motorway line to be determined
-  Possible new motorway
-  Existing trunk roads
-  Existing other main roads
-  Proposals for road improvements







Midlands and the outlet of the proposed channel tunnel at Ashford. Finally, the route as diagrammatically shown between the M3 and Southampton avoids duplication of an improved A34 and gives good north-south access to areas of eastern Wiltshire and Hampshire that have previously only enjoyed good communications on an east-west axis.

54 It is seen that a motorway in this more western location would cross the M4 in the vicinity of Swindon. Accordingly, the advantages of a 'crossgrade' location for a major new population development, which the South East Study suggested would arise at Newbury, would be directed to Swindon if the new motor route linked the Midlands to Southampton via the M3 and Chertingham.

55 It must be made clear however in this discussion of a possible new Midlands to Southampton motorway that the desirability and location of such a road must be the subject of a detailed evaluation by the appropriate authorities before any major planning proposals could become dependent upon it.

#### RAILWAY ROUTES

56 Map 18 shows the existing rail lines in the study area and the current proposals for development. Lines where all passenger service has been withdrawn have not been shown.

57 The principal rail route in the study area is the main western line passing through Reading, Oxford and Swindon, after which it divides, the south branch serving Bath/Bristol, the main line continuing west to South Wales and a northern branch serving Gloucester. The main line has been selected for development in current British Railways Board's plans (12). This route is also selected to carry the proposed liner trains between London and Bristol/South Wales. Officials of the British Railways Board indicate that additional depots for liner trains could be established along this line if market conditions were to warrant it.

58 Other routes selected for development within the study area include the north-south line passing through Oxford - Reading and Winchester, the line passing through Reading and Oxford leading to the outlet at Ashford of the proposed channel tunnel, and the London - Winchester line. It is intended under British Railways Board's plans that the routes selected for development shall



receive a concentrated share of railway investment. Routes shown on Map 13 as not selected for development will serve generally as feeders for the developed trunk lines.

#### WATER RESOURCES AND DRAINAGE

54 The study area lies within the catchment area of the River Thames and the regional river authority is the Thames Conservancy. Information outlined below concerning water resources and drainage within the study area has been obtained in discussions with this authority and with local water undertakings.

55 The future conditions for water supply in the Thames basin were described in the South East Study (16), where it was indicated that the Thames basin should be able to meet all demands up to 1981 that might arise from increased population and from an anticipated increasing rate of consumption. Officials of the Thames Conservancy confirm this assessment and their more recent studies indicate that, subject to some qualifications, the area under their administration could be self-sustaining with respect to water supplies until the end of the century. An important element in their proposals is the concept that existing and new centres of population would be served principally by surface water sources, e.g. the Thames, and that the underground water sources (such as the aquifers in the chalk of the Berkshire Downs and the coasts of the Cotswolds), would serve as storage facilities from which water would be fed to surface sources at periods of low river flow to meet the necessary demand. Preliminary studies have shown the feasibility of this concept and a major investigation by the Thames Conservancy of the potential utilisation of aquifers in the Berkshire Downs chalk is currently underway.

56 Thus it would appear that a major population increase through planned expansion of the site suggested in the terms of reference of this study, if located within the area administered by the Thames Conservancy, could be supplied from water resources within that same area. From the evidence so far available and allowing for this major increment in population, self-sufficiency within the upper Thames basin would remain the case at least until the 1980s, if not beyond.

57 To take best advantage of the underground sources as stand-by storage facilities it would be desirable to draw water supplies for any major new population from surface sources in the central area of the Thames catchment. For

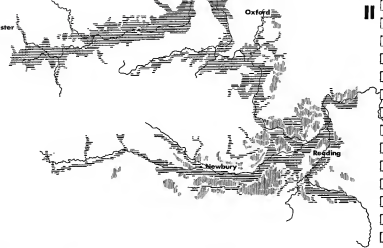
example, were major developments to be contemplated in the Newbury area, this might be fed directly from the Kennet at a point where substantial flow could be expected. On the other hand, for example, were major development to be contemplated in the Swindon area it may be desirable to draw water supplies from a point in the Thames where there is substantial flow, e.g. the vicinity of Wallingford, and pump it underground to the new development.

53 Land drainage for new urban developments must be considered in relation to sub-soil conditions. Where these are relatively porous, viz. the chalk found on the Hampshire and Berkshire Downs, it is readily dealt with by the provision of 'soakways' as for example at Basingstoke. Where soils are less porous, viz. the Oxford clay of the upper Thames Valley, it is necessary to provide holding ponds, as, for example, at Cranley, to deal with storm water run off. These require relatively minor investment and can be incorporated as recreation areas or other forms of open space as necessary.

54 With the exception of the Berkshire Downs, much of the study area is characterized by clay soils, and while this fact does not constitute an impediment to development it does require consideration with the land drainage authorities at the design stage of any new development.

55 The point of discharge of effluent into any water course must be located so as to ensure a reasonable relation between effluent volume and the total volume of the water course. Within the Thames basin differing standards concerning the quantity of effluent discharged apply in different locations depending on the volume and desired quality of river flow. Where discharge is into a water course of small flow a high standard of effluent would be required.

56 Any new major development of population located so as to discharge effluent into the upper most reaches of the Thames would require sewage treatment facilities capable of achieving a high standard of effluent and/or would require that discharge take place at a point in the course of the Thames where reasonable flows would be expected, for example just upstream of Lechlade. Notwithstanding the different conditions which apply in different parts of the study area with respect to the discharge of effluent, the cost differential is not sufficient to suggest that one area should be favoured over another as a location for new development.



## Gravel deposits

47 Gravel deposits in the area shown on Map 11 include those of the Reading, Newbury, Oxford and Swindon service areas of the Middle and Upper Thames gravel region (21). Gravel deposits mainly follow the courses of the rivers in the area, that is the Thames and the Kennet. The principal deposits lie between Reading and Newbury, Reading and Oxford and Oxford and Cirencester. The gravels in the area fall into two categories - valley gravel and plateau gravel.

48 Valley gravel, which mainly runs along the river courses, is of higher quality as a building material than plateau gravel. Future building in the region is wholly dependant on adequate supplies of gravel which is an essential material in concrete. The estimated quantity of gravel in the river valleys is sufficiently limited in relation to demand to make its full exploitation essential. It must therefore be concluded that building development should not take place over associated gravel sources in the study area.

49 The restoration or new use of the land after the deposits have been extracted poses particular problems in the study area. Pits in many areas are left in an unsightly state which at present prevents effective re-use of the land. There is a great potential for these areas for development as large lakes which could increase esthetic value, enhance the landscape, and provide for recreation.

## AGRICULTURAL LAND

50 The following section, paragraphs 51 to 59, is a condensed report of studies made by Professor Witherley.

51 Through all the area studied, with the exception of the land immediately east and south of Newbury town itself, commercial agriculture is the dominant use. The agricultural structure is in general of very high quality, a rolling countryside of large well equipped farms with large open fields and soils which are especially well favoured for cereal production. Over the past thirty years, all the advances in techniques of crop production have been particularly suited to farms in this area - the relatively favourable prices for cereals since Great War II, the development of new crop varieties, particularly in barley and wheat, balanced chemical fertilisers, new selective weed killers and systemic fungicides and the modern development of mechanised growing, harvesting, drying



and bulk storage of grain. All these developments have been so suited to areas such as the Berkshire Downs that they have lifted the agricultural productivity and profitability of such arable farming areas into first place and so one can see any sign in the future of this pre-eminence changing downward. Even if national agricultural policy changes in the future to emphasise other types of crops or livestock, most of the farms in this agricultural region will retain their high comparative advantage. A marked advantage is the relatively large physical size of farm unit which is so important an element in present day farm efficiency. Though, in theory, areas of rural land of high agricultural productivity can be organised in units of whatever physical size are required, in practice the patterns of land ownership and tenure changes slowly and unevenly so that poorly strategised farming areas only change over generations.

12 Finally, this very favoured agricultural area has a blend of topography, land use and rural settlement pattern which has great beauty of colour and form into which it will be hard to insert large scale urban development without seriously damaging the existing attractive but ordered harmony of physical form and food production.

13 We have been helped in our assessment of the long term agricultural value of the area by the maps of 'overall agricultural significance' and subsidiary information, provided by the Agricultural Land Service of the Ministry of Agriculture, Fisheries and Food. The maps of 'agricultural significance' represent a thoughtful attempt to provide a classification of agricultural land of real value for land planning purposes. In brief, the maps show a classification of existing agricultural output which has been adjusted for differences in the proportion of larger and smaller farms in different areas.

14 In more detail, the method involves the collection of parish estimates, checked and broken down by further field work, of the main tillage crops, for example wheat, barley, oats and other crops, including horticulture, where they are locally important. These are summarised and placed in an order of merit by comparison with national average yields of such crops. The livestock side of the farming economy is evaluated in terms of animal units per acre of feed crops (permanent grass, grass leys, lucerne plus feed roots) and these are again summarised and placed in an order of merit by comparison with the national average. These two output measures are combined and the resultant map of agricultural productivity is adjusted for differences in farm size by upgrading areas with a

greater than usual number of larger farms and downgrading other areas where small farms predominate. The grading used, both partial and final, is in terms of five categories. Classes I and II are better than average, class III is the average and classes IV and V are below the average. Map III shows the classification for the area with which we have been concerned.

75 In theory, a better system of land classification would use a detailed soil map, overlain with assessments of differences in size of farms, quality of farms layout and the nature and condition of farms fixed equipment. A second overlay should show the net incomes being obtained by the commercial agricultural and horticultural use of the land. But much of this information is not available and the agricultural significance maps of the Ministry of Agriculture are the best alternative available at this time. Used with care they can prove valuable for land planning purposes.

76 From both the immediate and the long term interests of efficient food production it would be best if any new large scale urban development proceeded in the Newbury area itself, especially to the south, east and north. Much of this land is of low natural fertility, its farm structure is poor and present productivity is well below the national and regional average. There are, however, many important reasons why this area is unsuitable for any city development and these reasons are given elsewhere in this report. An important aspect is the fact that the growth of Newbury and nearby settlements is expected to involve, in time, much of the poorer farmland of that area.

77 Careful examination of the data provided for our country by the Ministry of Agriculture and inspection of, and discussions within, the area show that there are strong long term agricultural objections to large scale urban development over most of the area west of Newbury and north of the M4.

78 It is only to the extreme west of the study area that the quality of the land and, in particular, its physical farming structure and general agricultural productivity begins to drop from a first class grading. This change focuses attention on the land in the Swindon area. Its agricultural significance is poorest immediately west and north-west of that city. Much of this area is graded well below average as most of it is in grade IV of the Ministry of Agriculture's grading. There is a considerable area immediately west of Swindon that has a much poorer agricultural structure than the rest of the area and this is shown

Areas or features of high landscape value may occur within or be superimposed on any of the above categories.

#### The regional setting

52. A belt of true country passes through the study area west of Newbury, over the Berkshire Downs, and between Swindon and Didcot. It links to the north with the Thames Valley and the Cotswolds and to the south with the Hampshire and Wiltshire Downs, intersected by the Kennet Valley and the Vale of Pewsey. East of the area an arc of urban development stretches from Reading to the Thames. From here urban areas and residential country stretch north-east towards Maidenhead and High Wycombe. Another urban area begins at Didcot to continue through Cullum and Abingdon and, with only a minor break, to Oxford.

53. This arc is broken only by areas of preserved and residential country and is adjoined to areas of residential country in the southern Chilterns and between Reading and Newbury.

#### Landscape analysis of the study area

54. The chief landscape elements of the area are,

The Berkshire, Marlborough and Hampshire Downs

The Vale of the White Horse and Thames Valley

The woods and commons north and east and south of Newbury

The Kennet Valley

The Vale of Pewsey

The agricultural land west of Swindon and the Avon Valley

55. The Downs in general and the Berkshire Downs in particular are the outstanding landscape feature. They are unique, not only in their magnificent and historic scenery, but because there is no other tract of country (except possibly the South Downs) within comparable distance of London where it is possible to experience remoteness and detachment from urban life. With the increased

pressure of urban life, the retention of such an area, unimpaired, is now more necessary than ever. The visual impact results from wide views, not only over the Downs themselves, but over surrounding country. To look from the north escarpment over the Vale of the White Horse and the Thames Valley to the Cotswolds beyond is one of the greatest experiences. The psychological value lies in the knowledge that there is a wide stretch of un-urbanised country which can be penetrated physically as well as visually. The effective area where both these values can be experienced is less in extent than appears from Map 13.

#### 86. Present encroachments include:

Harwell, which has visually urbanised a crescent of the Downs, stretching to the Ridgeway

The tower blocks and power station at Swindon which are visually out of scale with the views from the Downs

Some of the new housing development near the foot of the Downs, notably at Wantage

Airfields

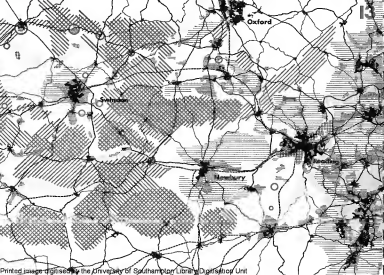
#### 87. Projected encroachments include:

The Didcot power station and power lines

M4 which will curtail the effective depth of unbroken Downs

88. These encroachments make it the more vital to preserve intact the unbroken area still remaining. The Vale of the White Horse and the upper Thames Valley flow together into one landscape whose great value is to form an extension of the Berkshire Downs landscape and a setting for the Thames Valley with its series of superb stone towns and villages. The flow of this landscape between the Downs and the river is dependent on maintaining a belt of open country at the foot of the Downs and sweeping areas of open country flowing through from Downs to the river. The existing flow is shown on Map 13. The pattern of the valley landscape is of hedged fields set in abundant timber.







55 Small villages, set in trees, do not break the flow, nor do slightly larger settlements broken by trees or set against the land form as in the case of Highworth. But the flow is checked by any large area of building (as at Sherborne) and the scale is thrown out by anything as massive as the tower blocks near Swanton. The old villages immediately under the escarpment are small and tucked in trees so forming no interruption. But new development as at Wantage and Chalfon is now breaking the flow.

56 The east end of the Vale of the White Horse is closed by the urban belt of Debscot/Drayton/Aldington and by a mesh of transportation lines. The very fine landscape of Sutton Courtyard forms an isolated oasis with a tenuous connection to the fine Thames-side landscape of Wotton Bassett and Clifton Hampden.

57 Areas of particularly fine landscape between the Downs and the river include:

The Beckford to Blunton area north of Faringham

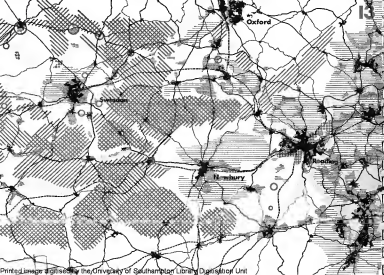
The Great Cornhill/Coleshill area

The Compton Beauchamp-Kington Lisle stretch at the foot of the Downs

58 Most villages in the Vale are of high quality at their core, but the majority have suffered from unregenerate new development. The landscape north-west of Swanton is of less value than that to the south and east, both in its intrinsic character and because it does not form a necessary part of a wider landscape.

59 At Swanton the building on the south and south-east slopes of the hill already approaches too closely to the Downs escarpment and further expansion here would be very detrimental. Equally it is necessary to keep a visual break between Swanton and Highworth, Watchfield and Sherborne, since a solid wall of building eastward from Swanton would be out of scale with the landscape seen from the Downs. To the west, a semi-urbanised area extends to Wotton Bassett. The essential barrier to expansion here is the escarpment between Wroughton and Brackdown.

60 To the north of Swanton the low escarpment also forms the natural boundary to the Thames Valley and views from Cricklade. But a designed landscape south of Cricklade, incorporating lakes, might allow expansion to the westward.



Landscape assessment

80 Small villages, set in trees, do not break the flow, nor do slightly larger settlements broken by trees or set against the land form as in the case of High-worth. But the flow is checked by any large area of building (as at Shrivensham) and the scale is thrown out by anything as massive as the lower blocks near Swindon. The old villages immediately under the escarpment are small and belted in trees so forming no interruption. But new development as at Woking and Chalfont is now breaking the flow.

81 The east end of the Vale of the White Horse is closed by the urban belt of Oxford/Oxford/Oxford and by a mesh of transmission lines. The very fine landscape of Sutton Courtyard forms an isolated oasis with a tenuous connection to the fine Thames-side landscape of Wotton Bassett and Chilton Wotton.

82 Areas of particularly fine landscape between the Downs and the river include:

The Buckland to Saxon area north of Faringham

The Great Cornwell/Coleshill area

The Cuxton Broomfield-Kington Little stretch at the foot of the Downs

83 Most villages in the Vale are of high quality at their core, but the majority have suffered from unsympathetic new development. The landscape north-west of Swindon is of lower value than that to the south and east, both in its intrinsic character and because it does not form a necessary part of a wider landscape.

84 At Swindon the building on the south and south-west slopes of the hill already approaches too closely to the Downs escarpment and further expansion here would be very detrimental. Equally it is necessary to keep a visual break between Swindon and Highworth, Wotton Bassett and Shrivensham, such a solid wall of building eastward from Swindon would be out of scale with the landscape seen from the Downs. To the west, a semi-urbanised area extends to Wotton Bassett. The essential barrier to expansion here is the escarpment between Wotton Bassett and Broadbent.

85 To the north of Swindon the low escarpment also forms the natural boundary to the Thames Valley and views from Cricklade. But a designed landscape south of Cricklade, incorporating lakes, might allow expansion to the westwards.



55 The southern slopes of the Berkshire Downs, the Kennet Valley and the Hampshire Downs continue to form one landscape composition. For most of the distance between Newbury and Marlborough this is extremely fine and in many parts can be classed as true country. East of Newbury there is a pleasant stretch of river near Easington but this is so restricted that it can be regarded more as a preserved green wedge than true country.

56 The tongues of country south-west of Reading including Bramhill Forest and the Loddon Valley are also landscapes under pressure. South of Newbury a large area has become urbanised by the Greenham Airfield and other development. Another urbanised area lies to the north-east. The tongues of country following the Kennet Valley on both sides of Newbury are valuable landscape assets to be preserved. The woods and commons north of Newbury form a pleasant landscape but a large part of them has become residential country. In some cases the houses are visually absorbed into the landscape, in others they have resulted in the worst form of urbanisation.

#### Recreational value of the area

57 The Downs provide walking and riding country of the highest quality, well-served by rights of way, chief amongst which is the historic Ridgeway leading from Goring to Avebury. The Downs are also used extensively for picnics and view points, with car access by the main and local roads.

58 The most used recreational area is on the Thames. There is some present use, and much greater potential use, of the Avon-Kennet canal.

59 There are well-used walking, riding and picnic areas on the commons and woodlands of the Bucklebury and Cold Ash areas.

#### The effect of urban development on the landscape

100 Predominant increments to existing settlements can alter their character both internally and by increasing their scale in relation to the surrounding landscape.

101 A large, new growth-point of population will exert strong pressures on the surrounding country. The dangers of this to the landscape are as follows:

The demand for developments outside any area agreed upon for expansion,

The sheer numbers of population may urbanise hitherto remote landscapes near the new city. For instance, a large increase of population near the Berkshire Downs could reduce them to something like the Lickey Hills, a useful urban playground, but not the regional and national asset which the Downs now are.

Reduction of the water table and canalisation of streams may destroy the character of a landscape and impoverish its tree growth and wild life.

#### *Recommendations*

142 We recommend that the sweep of country extending westwards from the edge of the urban and residential areas and flowing over the Berkshire Downs and across the Vale of the White Horse to the Thames, should be kept free from further urban development for the following reasons:

(i) It is the first zone of true country westward from London

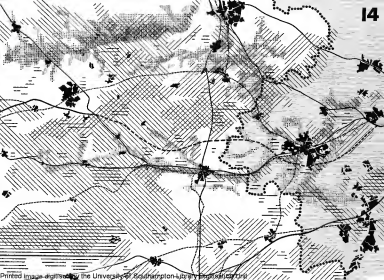
It is part of the essential setting of the outstanding and remote landscape of the Berkshire Downs.

True country needs to be in large unbroken areas to withstand urban pressure and the area in question is already demonstrated by the Didcot/Abingdon development to the east and Reading to the west. In our opinion it could not survive a further urban intrusion.

143 To keep the landscape intact:

Any further expansion of villages within the area should in most cases be only within the fabric of the villages and should in all cases follow a plan carefully prepared to find a sensitive solution which will safeguard both the character of the village and its setting in the landscape.

A rigorous and enlightened control would be necessary over all development within the area.



## Combined physical constraints



104. The increase in urban population in the area should be balanced by active measures to strengthen the landscape of the whole region. This would entail a positive approach to landscape areas, planning them as viable entities and not merely as a background to urban development. This is particularly urgent for the remaining green areas within the urban and semi-urban area which bounds the area to the east. Map 13 shows the type of planning which might be undertaken.

105. Recreational landscapes based on water sports and linked to the programme of wet ground workings should be planned.

106. Landscape and recreational recreations based on water courses along the Thames, the Kennet and Avon and the Loddon should be made.

107. Comprehensive landscape plans for areas in need of rehabilitation and protection should be prepared. These areas include:

*Didcot/Abingdon/Batton Country*

*Swinsay/Liddington/Warborough.* The outskirts of Swinsay already spoil the view from the Downs and the construction of M4 will add a further complication. An overall landscape plan with extensive tree planting will be needed to reconcile these developments with the Downs, Warborough Church on the M1, and the important pre-historic landscape of Bathampton.

A positively planned green belt should be established between the proposed new city north-west of Swinsay and Cirencester. This could link across the north of the city into a water-belt south of Cricklade. To the south it should link into the fine country south-west of Wootton Bassett and make an effective break between Wootton Bassett and Lyneham.

## SUMMARY OF STUDY AREA CHARACTERISTICS

108. Map 14 shows the covering of physical considerations which will limit urban development in the study area. Certain of the factors examined in this chapter



will not significantly influence the siting of urban development and have therefore not been shown. These include administrative sub-divisions, water supply, drainage, sewage, and the provision of services generally. Other factors such as Crown lands, airfields and areas of special scientific and natural interest, while frequent within the study area, do not represent an impediment to major urban development. Significant physical constraints which have been shown on Map 14 include areas liable to flood, river gravel deposits, existing settlements, areas of Crown land and other special uses. Areas containing highest quality agricultural land which, in the national interest, should not be released to large-scale urban development are also shown. Assessment of landscape value shows an area comprising the Berkshire, Marlborough and Hampshire Downs which is of unique national significance and should be kept free of urban development. The sweep of landscape north from the Berkshire Downs across the upper Thames is given a special role as an essentially agricultural landscape link to the Cotswolds.

119 Areas shown on Map 14 as not subject to major physical constraint are those which may be considered as possible areas for development. These are, first an area in the vicinity of Newbury - to the north as far as the motorway M4, and to the south as far as the Hampshire Downs. Secondly, an area in the vicinity of Abingdon and Didcot - between the two settlements and to the north and north-west. Thirdly, an area in the vicinity of Solihull - to the north-west, the north and to the north-east of the town. The possibility of development within these areas, however, depends on demographic and regional considerations, discussed later in this report.

110 The following chapter is based on a study carried out by Professor Emrys Jones. The area for demographic analysis includes Berkshire and parts of Hampshire, Wiltshire, Gloucestershire and Oxfordshire. The analysis is presented in terms of local authority boundaries for which statistical data is available.

#### PAST TRENDS AND PRESENT DISTRIBUTION

111 Map 18 shows the 1951 and 1961 population in the following local authority areas:-

County Borough

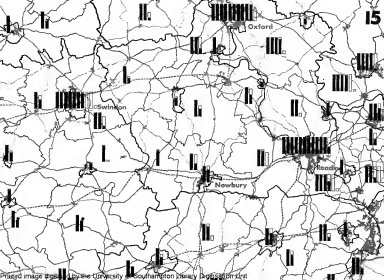
Municipal Borough

Urban District and

Rural District

112 The analysis below attempts to identify the areas (in terms of the above mentioned political boundaries) of major population increases between 1951 and 1961. The increases are expressed in pure numbers and presented within the framework of the overall increases of the county of which they form part.

113 Between 1951 and 1961 the population of Berkshire increased at a rate of 2.35 per cent a year, two-thirds of the increase being due to inward migration of population (25). The areas around Reading witnessed appreciable increases during the period. The County Borough of Reading increased by 4,541. Other large gains were Maidenhead Municipal Borough (3,465), Abingdon Municipal Borough (3,315), New Windsor Municipal Borough (3,285), Rushmore and



Population in 1851 and 1881  
by administrative boundaries

Rural District (31,764, including Brinknell New Town with a population of 12,376 in 1861 from 5,163 in 1851), Wokingham Rural District (15,163) and Reading Rural District (3,886).

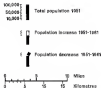
114 The population of Hampshire between 1851 and 1881 increased at a rate of 1.12 per cent, a little over two-fifths of this increase being due to excess of births over deaths and the rest to the inward movement (53). The main increases were in Bournemouth and Southampton County Boroughs and Havant and Waterloo and Fareham Urban Districts adjoining Portsmouth County Borough, all outside the study area.

115 The population of Wiltshire increased at the rate of 0.86 per cent per annum between 1851 and 1881, seven-tenths of which was due to natural increase and the rest to the inward migration (54). By far the largest rise occurred in Swindon Municipal Borough whose population rose by 22,711, nearly three-quarters of this increase being due to inward movement of population. The areas round Swindon were the predominant growth areas within the County. Largest increases occurred in Highworth Rural District (8,178) and Cricklade and Wootton Bassett Rural District (2,888).

116 Between 1851 and 1881 the population of Gloucestershire rose by 0.56 per cent per annum, nearly three-quarters of this increase being due to natural increase and the rest to the inward movement of population (55). The population of Bristol County Borough (outside the map) fell by 2,698 but adjoining Urban Districts of Kingswood and Mangotsfield witnessed large increases. The areas of Gloucestershire included in the map (Cirencester Urban District and Cirencester Rural District) gained in population but these gains were not large.

117 The population of Oxfordshire between 1851 and 1881 increased at a rate of 1.32 per cent per annum, three-fifths of this increase was due to natural increase, the remainder being due to inward movement of population (56).

118 The increase in population by 7,844 for Oxford County Borough between 1851 and 1881 is attributed to the fact that the 1851 census was taken during university vacation, whereas the 1881 census was taken during the university term. Most of the areas of largest population increase were around Oxford County Borough, e. g. Witney Urban District (2,882), Witney Rural District (2,282), Flossbury Rural District (2,254 - not shown on map) and Hallowington Rural District (2,212).





Oxford

Swindon

Newbury

Reading

Rate of population change due to natural increase between 1951 and 1961

Per cent per annum



119 Changes in population are the net results of natural increase and migration and give a clear picture of gains and losses within an area. The change in population is analysed for the 1951-61 period and is expressed in terms of local authority boundaries which gives a clearer picture.

120 Map 16 shows the natural increase of population in percentages. There is no significance in the pattern of the rates of natural increase; the differences are very small and could be related to the age and sex structure of the existing population.

121 Change caused by migration alone is shown in the Map 17 in percentages. There is considerable difference in the migrational patterns between the areas. The entire western area, with the exception of Swindon, is losing population by migration though the losses are not very great. The picture is very different in areas east of Newbury, which generally show moderate gains, and in some cases, considerable gains, as can be seen between Newbury and Reading.

122 The composite picture of natural increase and migrational change is shown on Map 18. It is quite clear that Newbury is on a demographic divide. Immediately to the east of Newbury is an area which is sharing in the growth due to migration into the south-east. This area of growth to the east of Newbury contrasts markedly with the western half of the region which, with the exception of Swindon and areas immediately around it, is either static or losing population. It is also interesting to note that this line of demographic divide has shifted considerably to the west between 1951 and 1961. In 1951 the line of divide was east of Reading. This shift clearly indicates the extension of the outward limits of the London region.

#### DENSITY OF POPULATION

123 Lowest densities within the study area are associated with downland, the Hampshire Downs to the south and the Marlborough and Berkshire Downs to the north. Parts within these areas could, for all practical purposes, be considered as population voids.

124 The density increases appreciably towards the east with marked difference between east and west. The density pattern is greatly influenced by location.



Rate of population change due to  
migration between 1951 and 1961

Per cent per annum



of urban areas. Reading is outstanding, as are areas around it and between it and Newbury. Other islands of high density are towns like Swindon, the northern end of the Oxford group and in the south, Basingstoke and Andover.

#### POPULATION IN SETTLEMENTS

125 Map 18 shows the 1951 and 1961 distribution of population in major settlements within the area. There is a heavy concentration of rapidly growing settlements to the east which forms part of the outer edge of the London Metropolitan Region. Growth in this area is mainly attributed to the pull of London and increase in total employment in the London region. The increasing concentration in this area really indicates the continuing extension of the London commuter area. Within this area Reading is outstanding and the growth around Reading is one of the highest in the area.

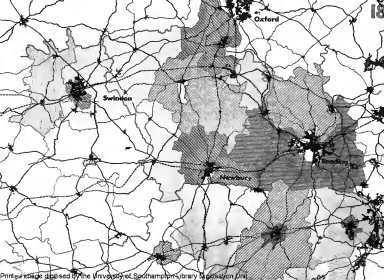
126 Apart from this, generally speaking, other settlements which have witnessed considerable growth are those that serve as centres for industrial and office employment as well as providing retail and social facilities for the surrounding rural areas. Swindon is the best example in this category which has grown by 25,292 persons, from 66,549 in 1951 to 91,708 in 1961. This growth has taken place primarily by inward movement of population due to accelerated development under the Town Development Act, 1945 and attraction of additional industry. Oxford and settlements to the south like Didcot, Banwell and Abingdon have also witnessed rapid growth in the post. Two other major growing settlements are Basingstoke (23,603) and Andover (4,803) in the north-west of Hampshire, because these are committed to accommodate parts of London overflow of 41,500 and 21,000 persons respectively.

127 Reading, Swindon and Oxford are the three major settlements within the area with populations of nearly 100,000 or more. These and the areas around them are the predominant growth areas.

#### POPULATION CHANGES IN BERKSHIRE

128 A more detailed study of the possible distribution of population change in the County of Berkshire and in the County Borough of Reading, based on the South East study estimates, is presented below. Such a study is considered necessary to formulate overall policies for land allocation and population distribution within the study area and its implications are discussed further in chapter 5 of this report.





Rate of total population change  
between 1961 and 1981

Per cent per annum



229 The regional population distribution policy as outlined in the South East Study has already been described (27). The proposed breakdown of the population into two distinct categories of 'planned expansion' and 'population change' indicates that, when dealing with any particular area, there are these two components to the total population increase. It is necessary before considering the problem posed by our terms of reference to consider the probable future pattern of development in Berkshire in the light of the proposals in the South East Study in both these categories.

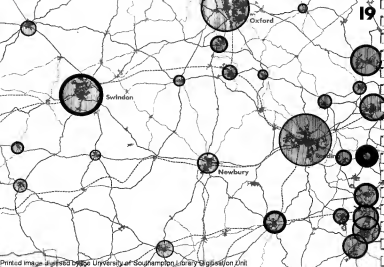
South East Study estimates (see pages 55 and 56 for tables 2 and 3)

230 Table 2 gives the estimated population changes, excluding planned expansion between 1961-81 for Berkshire and Reading (28). It will be seen that the total population change is 145,000 and that separate figures are shown for two areas - 'Berkshire: Outer Metropolitan Region' and 'Berkshire: Outside the Metropolitan Region.' For each area the population change is given in two parts; natural increase and 'other causes.' This latter figure represents 'overpill from London outside planned schemes, migration for retirement, and contingency allowance.'

231 We have calculated the equivalent figures for 1961-81 and these are shown in Table 3. Comparison of the figures reveals a sharp drop under the heading 'other causes' between 1961-81 and 1981-81. This demonstrates clearly the impact of the planned expansion schemes on the distribution of migrant and of overpill population. On the other hand there is a sharp increase in the expected change by natural increase from 31,000 in ten years to 117,000 in twenty years.

232 To these figures must be added the figures for planned expansion comprised of 30,000 for Reading (29) and 20,000 for Bracknell (30). Taking these figures into account it will be seen that the total population increase for Berkshire (including the proposed new city in the Newbury area) would be:

Population change	145,000
Town Expansion	30,000
Reception Capacity in Bracknell	20,000
<hr/>	
Total	295,000
<hr/>	



Population in 1951 and 1961 by settlement



#### Standing Conference estimate

133 Since the publication of the South East Study the Standing Conference on London Regional Planning has published its own suggested distribution of population increases outside the London conurbation up to 1971. The estimate for Berkshire including associated County Boroughs is 136,000 (31, 52 and 53). It is not possible to compare exactly the figures in the South East Study to those in the Standing Conference reports but the Standing Conference does say that the Registrar-General's latest projections, from which they are working, assume a faster natural growth than those used by the authors of the South East Study. We have adopted the South East Study figures in subsequent discussion but it must be remembered that these could well be underestimated. We shall now consider the probable pattern of growth in the County as a whole.

#### Berkshire: Outside the Metropolitan Region

134 The area for which the Population Change up to 1961 is 50,000 persons had a total population in 1961 of 154,000 (34). 7,000 of this increase is attributed to 'other causes' and the remainder, 43,000, to natural increase. The distribution of this 'natural increase' is likely to be considerably affected by migratory movements within the area. It has been shown (26) that much of this area is losing population. It is clear that this migration is in all cases out of the agricultural areas and that the urban areas all gained in population, the major importing areas being around Newbury and Abingdon/Didcot. This pattern will only change if the influence of London extends throughout the area. The strategy outlined in the South East Study is designed to prevent this and we therefore assume that in broad terms the pattern of migration will continue. The exact pattern of population change will be affected by the rate of household formation and changes in the household structures. In view of the difficulty of assessing the effect of these trends on the population of 'exporting' areas we have assumed that their population will remain at the 1961 level until 1961. From this it follows that the whole effect of the population change (50,000) both 'natural increase' and 'other causes' will be concentrated in the two main importing areas, namely Newbury and Abingdon/Didcot.

135 This conclusion assumes that the attraction of Reading, Oxford and Swindon has been allowed for in the figures given in the South East Study. It is clear from the Study (34) that external migratory movements of the type discussed have not been taken into account. The major urban development which is the subject of this study will also have a considerable effect on the pattern of growth, as will

Estimated population change, excluding planned expansion, in Berkshire 1961-1961 (1)

Local planning authority area	Population 1961	Change 1961-61			Outer Metropolitan Region				Outside the Metropolitan Region			
		Total	Births and Deaths	Other Causes*	Population 1961	Total	Births and Deaths	Other Causes*	Population 1961	Total	Births and Deaths	Other Causes*
Berkshire A.C.	381,700	100,000			225,000	87,000			154,000	80,000	43,000	7,000
Reading C.B.	120,400	17,000			105,400	17,000			-	-	-	-
Berkshire and Reading	502,100	116,000	117,000	20,000	330,400	104,000	74,000	20,000	154,000	80,000	43,000	7,000

\*'Other causes' means overspill from London outside planned schemes, migration for retirement, and a contingency allowance.

(1) The figures in this table are taken from Table VI of *The South East Study*.

Estimated population changes, excluding planned expansion, in Berkshire 1951-1961 (1)

Local planning authority area	Population 1951	Change 1951-61			Outer Metropolitan Region				Outside the Metropolitan Region			
		Total	Births and Deaths	Other Causes*	Population 1951	Total	Births and Deaths	Other Causes*	Population 1951	Total	Births and Deaths	Other Causes*
Berkshire A.C.	245,070	98,380	28,430	69,950	169,310	66,990	12,777	54,213	-	-	-	-
Reading C.D.	114,350	5,740	5,890	250	-	-	-	-	-	-	-	-
<b>Berkshire and Reading</b>	<b>459,420</b>	<b>104,120</b>	<b>34,320</b>	<b>70,200</b>	<b>169,310</b>	<b>66,990</b>	<b>12,777</b>	<b>54,213</b>	<b>125,650</b>	<b>26,270</b>	<b>12,900</b>	<b>19,017</b>

\*Other causes\* means overpill from London outside planned schemes, migration for retirement, and a contingency allowance.

(1) These figures are derived from the 1951 and 1961 Census volumes

the presence of the Motorway M4. In view of the complexity of the situation it is not possible to give a precise allocation of the 44,000 population change to the area although it is probable that a substantial proportion will be in the two areas mentioned.

#### Berkshire: Outer Metropolitan Region

126 For ease of analysis this part of Berkshire is divided into three areas: Reading County Borough, East Berkshire (37) and Central Berkshire (38). The 1961 population of Reading County Borough was 120,464. The South East Study suggests that the natural increase of Reading between 1961 and 1981 will be 17,600 (see Table 2). The Borough Surveyor and Planning Officer has given us figures for development between 1964 and 1981. These show a maximum net gain of 3,852 dwellings. This would probably imply an increase between 1964 and 1981 of not more than 11,640 persons. The increase within the County Borough between 1961 and 1964 was 3,374. It will be seen that the County Borough will be able to accommodate all its natural increase except for about 2,800 persons. It can be assumed that these will move into the surrounding local authority areas of Central Berkshire. It will be recalled that Reading is one of the towns suggested as suitable for planned expansion by 34,000 people. This also would have to be outside the present County Borough boundaries.

127 The 'population change' in East Berkshire will largely depend on the allocation of land but a total change of 20,000 was possible within existing allocations in 1961. (Bracknell New Town is within this part of Berkshire. The South East Study assumes that the New Town will reach a planned population level of 10,000 by 1961. Land is available within the designated area and increases in the New Town's population are excluded from this discussion).

128 The 'population change' in Berkshire: Outer Metropolitan Region, including Reading County Borough, is estimated at 44,000 (see Table 2). The proportion of this that will occur in Central Berkshire is difficult to assess. We have already seen that Reading will not be able to accommodate all the natural increase and that unless the green belts are abandoned only 12,840 people can be accommodated in East Berkshire. If these assumptions are accepted the balance of the population change (34,000) must occur in Central Berkshire. The estimated total increase in Central Berkshire would then be as follows:

Population change	58,000
Planned expansion	50,000
	<hr/>
Total	108,000
	<hr/>

#### Land Allocations

150 The County Planning Officer has assessed the total population capacity of land at present allocated for development in the Development Plan. These figures are given in Table 4 together with the Mid Year Estimates of Civilian Population for 1961 and 1964. Assuming the 1961-1964 rate of growth continues we have assessed the date at which existing land allocations will be exhausted. It will be seen that on this basis existing land allocations will be exhausted in Central Berkshire by 1975. Unless further land is to be allocated the whole of the present allocation in the County would be used by 1974. The main pressure on land will clearly be in Central Berkshire. If existing planning policies are retained, and the suggested planned expansion at Reading is included, land for a further 50,000 would be required.

#### SUMMARY

149 The demographic analysis presented before helps us to identify the following discernible characteristics of population distribution within the study area, and its immediate vicinity.

141 The main areas of population growth are the following:

Reading and district

Oxford and district

Swindon

North-west Hampshire (Andover and Basingstoke in particular), and

Southury

142 Reading, Oxford and Swindon are the three major settlements with popula-



Population capacity of the Berkshire Development Plan and estimated date by which this capacity may be reached

Area	Mid-year Estimate of Civilian Population (1)				Capacity of Development Plan (1964 estimate) (2)		Date when capacity may be reached (3)
	1961	1964	Increase 1961-1964		Total	Unused (1964)	
			Total	Average p.a.			
East Berkshire (5)	140,000	152,000	12,000	3,000 (4)	152,000 (4)	24,700 (4)	1972
Central Berkshire (6)	90,000	107,000	17,000	3,500	153,000	38,000	1969
Kennet Valley (7)	40,000	42,000	2,000	500	42,000	2,000	1974
West Berkshire (8)	47,000	50,000	3,000	1,100	50,000	3,000	1973
N.E. Berkshire (9)	68,000	72,000	4,000	1,700	72,000	11,000	1975
<b>Berkshire A.C.</b>	<b>265,000</b>	<b>294,000</b>	<b>29,000</b>	<b>12,700</b>	<b>294,000</b>	<b>110,000</b>	<b>1973</b>
Reading C.B.	121,000	120,000	2,000	700	-	-	-

(1) 1961 and 1964 estimates from the Ministry of Housing and Local Government and correct to three significant figures.

(2) Estimated by Berkshire County Council.

(3) These dates have been derived by dividing the Unused Capacity by the average annual increase (1)-(4).

(4) Bracknell New Town excluded.

(5) East Berkshire = Maidenhead MB, Windsor MB, Cookham RD, EastChamptstead RD (including Bracknell New Town) and Windsor RD.

(6) CentralBerkshire = Wokingham MB, Reading RD and Wokingham RD.

(7) Kennet Valley = Newbury MB and Newbury RD.

(8) West Berkshire = Wantage UD, Farnham RD, Hungerford RD and Wantage RD.

(9) North East Berkshire = Abingdon MB, Wallingford MB, Abingdon RD and Wallingford RD.

Some of about 100, 000 or more. These are also the main growth areas. Andover and Basingstoke will grow fairly rapidly to accommodate that part of the London overspill population to which they are committed. Growth of population at Newbury was modest and the employment growth between 1951 and 1967 was largely due to Aldermaston.

143 Large parts of the study area, mainly associated with downslands, have low population densities. The density increases appreciably towards the east of the study area with marked differences between the east and the west. It is also quite clear from the study of population change that Newbury is on a demographic divide with the area to the east generally sharing in the growth as opposed to the area to the west which is either static or losing population.

144 The broad picture that emerges from the study of population changes in Berkshire is of growth concentrated in a number of clearly defined areas - Abingdon/Didcot in the North-east and Newbury and Reading in the south. Great pressure will develop on land resources in Central Berkshire within five years and unless further land is allocated there, this pressure will spread to the Newbury area. In any case the present allocations will run out within a decade. This should be looked upon not as an overwhelming problem but as an opportunity to influence growth by the allocation of land. Where this land might be and the kind of policy that might be adopted is discussed more fully in chapter 8.

# INTRODUCTION

143 The two components of population increase suggested in the South East Study are 'planned expansion' and 'population change'. In the previous chapter the extent and probable distribution of the second component has been discussed. The task of this study is to consider whether the study area is suited to accommodate the population as contemplated in the first component, and if so how this additional population should be distributed. If the answer to the first question should be negative, then supposing that the broad population predictions are more or less correct, room would have to be found in other parts of South East England for all or part of the planned increase in population.

144 Whereas the South East Study suggested that a major new city might be planned at or close to Newbury and a substantial increase in population could be planned at Swindon, the terms of reference for the present study ask that the whole of the study area should be considered. This leaves open the disposition of approximately 300,000 additional people within the area. It is suggested in the terms of reference that this might be in the form of one or two major developments or by a number of smaller but linked developments. Attention is called to the importance of planned developments in towns and cities bordering on the west end. Finally, it is suggested that the development of Swindon itself might be possible as a site for the main development in the area. The terms of reference also lay stress on the need to preserve landscape amenities and agricultural potential within the area and point to the fact that the area contains important tracts of great natural beauty which serve a far wider population than that of the area itself.

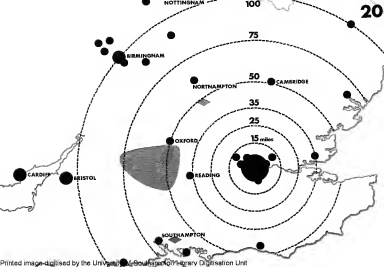
145 In the light of the description and analysis set out in chapters 3, 4 and 5 we now turn to discuss the question posed by the terms of reference. In doing so, we propose first to discuss whether the whole area is a suitable one to accept

146 The suitability of locating major urban development in the study area can be conveniently considered in relation to two main criteria, firstly, its distance from London and secondly, its economic viability.

147 Distance from London is obviously important, as the prime object of the development is to draw off some of the pressure from the metropolis. It is rather more difficult to define what an appropriate distance from London for this purpose should be. Broadly, it is clear that a new centre must not be so near London as to be within commuting range. It would clearly defeat the purpose of the operation if a substantial proportion of the people who live in the new centre travel into London to work.

148 But travel to work is not the only question. It is clearly necessary that the new centre provides a very considerable range of social and cultural activities and services. Unless it does so the attraction of the metropolis will again defeat some of the principal objects of the operation. A new population centre which provided only housing and some employment but was unable to develop a substantial range of central functions, such as can be found in a city of this size, would be an inadequate solution. Therefore it is important to consider distance from London from this point of view. Map 10 shows the distribution of settlements of various orders of magnitude in relation to their distance from London (25). It can be seen that major cities such as Nottingham, Birmingham, Bristol and Cardiff are all situated at a radius slightly over 100 miles from London.

149 In between these major cities and the metropolis there is a ring of smaller but very important towns and cities. These include Cambridge, Bedford, Northampton, Oxford, Swindon and Southampton, situated in a ring roughly 50 to 75 miles radius around the metropolis. Several of these cities have substantial populations of 100,000 or more, and several have succeeded in establishing themselves as important centres. They can offer a good range of social, cultural and economic facilities and serve a considerable population beyond their city boundaries. It would appear that it is in this ring, between 50 and 75 miles from London, that the best opportunities will be found to establish new centres of population with the power to provide the range of alternative employment and the social and cultural amenities which are needed. The study area falls within



Areas suggested for major expansion  
in relation to pattern of settlement  
in Southern England

this ring and, therefore, on broad grounds of distance from the metropolis, it would appear to be suitably located to provide a new growth centre capable of substantial development. The three new offices suggested in the South East Study, at Newbury, Bishopcleeve and Southampton, are all within the same ring.

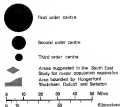
142 But we need to look more closely at the study area itself in order to be satisfied with its location in terms of distance from London. The development of London is not symmetrical. It has developed much further in some directions than in others. Therefore of two areas both equidistant from the centre of London, one may be in fact very much closer to the metropolis than the other and very much more under its influence. The area with which we are concerned is much affected by the presence of Reading. The detailed problems posed by the proximity of the metropolitan region are discussed in due course more fully but it is important at this stage to note that development in the Kennet Valley would be considerably affected by these considerations. On the other hand there are considerable areas to the west of the study area which are further away from the metropolitan influence.

143 We may therefore broadly conclude that the study area in general, and the western part of it in particular, is well placed in terms of its distance from London to accept one of the proposed new offices.

144 We now turn to the question of economic viability. Theoretically, it is conceivable that a new settlement could be established anywhere in the country as a matter of public policy. In practice, however, certain locations are economically favourable and others unfavourable. In a favourable location the public investment involved in establishing a new centre will be much less than will be necessary in a relatively unfavourable place. Initial public investment should preferably take the form of pump-priming, leaving the later development of the city to come as a natural result of its growth potential.

145 The criteria for economic viability are not very precise but some broad discussion of the study area from this point of view is possible. The first and most obvious criterion is that the proposed new development should lie on an important transport route, or, better still, at the cross-roads between two important routes.

146 The study area lies squarely across the main transport routes between



London and the west. The proposed line for the M4 lies more or less through the middle of the area and the main railway line from London to Bristol and South Wales passes along its northern edge and through the town of Swindon. The present proposals for the development of British Railways as described previously (40) show this line as one of those proposed for development (for passenger and freight trains) in the future. The road link between Southampton and the Midlands, however eventually routed, runs across the study area. The Commission of Enquiry into the Major Ports of Great Britain has recommended the development of Southampton into one of the country's principal cargo ports (41). The Committee's report emphasises the need for this development to be accompanied by improved communications to the Midlands, and this seems bound to involve the establishment of a good road link between Southampton and the Birmingham area. If this road link should go in the manner suggested in chapter 4 to connect with the present end of the M6 at Tewkesbury/Chalfonts it would swing across the study area and pass close to the town of Swindon. Thus, the study area is likely to contain, at a point not yet certain, but possibly near Swindon, an important cross-roads where the east-west motorway crosses the north-south road, perhaps a north-south motorway. It therefore appears that within the study area there may be a major cross-roads and possibly a point where road and rail services connect. Such a point would have obvious economic growth potential.

167 Should a new principal cargo port not be developed at Southampton, then there is a likelihood that a new port might be developed on the Severn, near Bristol. In this case the importance of the east-west transport route between Bristol and London will be greatly enhanced and the study area will therefore benefit in either case.

168 Linked to the question of transport is the rather broader question of a development axis. Many recent studies in regional planning, including that of the Ports region (42) lay stress on the economic importance of development axes. Interest in the development axis stems from the view, for which there is geographic and historical evidence, that economic factors are favourable to urban development along axes connecting major conurbations. In Britain, it is well known that the principal development axis has been and still is a line running north-west from London through Birmingham to Manchester and Liverpool. One of the new arteries proposed in the South East Study, Bletchley, is situated on this historic growth axis. Any settlement placed on such an axis has the advantage

of good communications in two directions, towards either centre. In considering the future national development of Great Britain there seems reason to believe that an east-west axis running from London through Bristol to Cardiff and South Wales could and should become an important line of growth. The study area lies astride this axis. The establishment of a new substantial settlement in the study area would both contribute to the development of this westerly growth axis, and gain from it.

159 The economic viability of the new centre will also depend to some extent on its distance from other centres. The relationship of other centres to the study area has already been discussed. It does appear that part at least of the area is sufficiently far from London and sufficiently far from other major cities and new developments to give an opportunity for a new centre to be established without too much competition, and with a sufficient area of hinterland, to help it to establish itself as an economic, social and cultural centre.

160 It thus appears that a site for a new development with considerable economic viability could be found within the study area. These arguments are, however, broad and general. Generally speaking the towns in the area have not shown very vigorous development during recent years. There are, however, two exceptions - Abingdon/Didcot and Swindon. The Abingdon/Didcot district has shown a rapid increase in population in recent years. This appears to be due mainly to the proximity of Oxford, and to the planning policies at Oxford which have prevented expansion within that city. This has resulted in a considerable overflow from Oxford, some of which has resulted in the development in the Abingdon/Didcot area. A still more important factor has been the establishment of the Atomic Energy Research Establishment at Harwell. A very considerable population, approximately 35,000 people depend on the Atomic Energy Research Establishment and consequently there has been substantial development of housing and tertiary employment around Abingdon and Didcot.

161 A still more interesting example of growth has occurred at Swindon. Here, thanks in part to locational factors, and in part to a very vigorous action by the local authority, considerable development has taken place. This development is described in chapter 5 (40). The experience of Swindon suggests that the study area, at least in some places, has considerable economic potential for the support of urban growth. Thus, our broad conclusion is that there are likely to be



opportunities within the study area for the establishment of a new population centre with a high degree of intrinsic economic viability.

162 The next question is to consider the various areas where it might be possible to establish such a centre and to select the best area for the development.

#### GENERAL CONSIDERATIONS TO THE FORM OF DEVELOPMENT

163 Before we turn to discuss the various possible locations for development, some general consideration must be given to the form of development most suitable for the purpose envisaged in the terms of reference for this study. At one end of the scale it would be possible to concentrate all development into a single new urban area. At the other end of the scale new building could be diffused very widely over the study area. In the latter case so many towns and villages as possible would each be separately expanded in order to take up the planned increase in population. Between these two extremes, it would be possible to propose solutions involving an urban development at two, three or more centres within the area.

164 A completely diffused pattern of development was considered but was rejected at a fairly early stage in the study for a number of reasons. The study area will have to absorb at least 50,000 people in addition to the planned development. It has been shown in chapter 2 that most of the towns will be required to accept a share of this increase. It may be possible, by careful planning, to keep the development associated with this increase largely within the existing urbanised areas. If however the planned development is also diffused this would involve major encroachments on land of high landscape and agricultural value, thus tending to destroy the main amenities of the area.

165 Apart from the objection on grounds of landscape and agriculture to a diffused development, it is also open to grave objection on economic and social grounds. A diffused pattern would not permit the development at any one point of a town or city capable of providing a reasonable range of social and cultural facilities. Again, if employment were diffused about the area, there would be limited choice of employment for the population, except at a cost of long journeys to work. Diffused development would thus never fulfil the essential object of the South East strategy which is to provide centres of attraction remote from London. As a result the natural dependency on London which will be present in diffused development will

assert great pressure towards an unbalanced development, weighted towards the eastern side of the study area close to London. In default of a centre of attraction within the area itself, the separate small communities would all look towards London, and new developments would tend to be located on the eastern edge of the study area. Such a result would be entirely at variance with the purpose of the whole operation. It therefore seems abundantly clear that, while there must be limited selected development throughout the whole area, any attempt to absorb the planned increase in population by diffusion would be wrong.

184 The foregoing arguments also apply to any proposed break-down of the development into a number of separate centres. In our view any proposal which does not permit the effective establishment of an urban area sufficiently compact to provide a wide range of employment, social and cultural opportunities to its inhabitants, at a reasonable cost, is ruled out. Unless this can be done and a strong, attractive growth centre established, we doubt if the aims of the operation as defined in the terms of reference can possibly be fulfilled.

187 Thus on general grounds the advantage lies strongly in favour of concentrating the bulk of the development in a single new city. This would land by the end of the century, in a city somewhere between 300,000 and 400,000 depending on the size of the existing settlement which might form part of the new city. A city of this size could undoubtedly develop a fine range of facilities. It would probably possess a university and could provide its population with a rich choice of social and cultural activities. It could also support a sufficiently diverse population with a wide range of interests. It would thus avoid some of the problems which have arisen in the first generation of new towns where limited employment opportunities tended to result in population too narrowly based in age, class and range of interests. From the discussion earlier in the report it appears that the social and economic geography of the study area could well support a city of this size. The growth over time of the new development will also be easier if it forms a single urban area.

188 The capital cost of a single large development is also likely to be less per head than that of a number of smaller towns. There would inevitably be some duplication in services if several towns were to be built.

189 Whilst general arguments appear to weigh in favour of a single centre, it

any given situation local conditions could make other solutions preferable. We therefore now turn to consideration of the possible locations at which development could take place within the study area.

170 When considering the suitability of the study area for major urban development it was seen that the proximity of Reading and the Metropolitan Region was likely to affect possibilities in the Kennet Valley. This problem must now be considered in more detail.

171 The situation of Reading is anomalous. It is almost the only major city less than fifty miles from London. This fact of itself is of considerable interest and points to certain locational and historic factors of exceptionally favourable character which have enabled Reading to grow in size and importance to an extent which no other town or city so close to London has been able to achieve. These factors include the location of Reading on the Thames and on the main trunk routes both road and rail connecting London with the West. Today Reading is within commuting distance of London, both by road and rail. It is expanding rapidly and is already committed to a major increase in population. Details of this increase have been discussed previously (14). Reading is now part of the Outer Metropolitan Region and the boundary of the Metropolitan Region runs west of Reading and effectively forms the eastern boundary of the study area (15).

172 Considering the location of the study area it seemed important to have as precise as possible a view as to what constituted the extent of metropolitan influence. In chapter 5 a demographic study is reported, designed to shed light on this question. This study shows that it is possible to draw a demographic divide. On the London side of this divide towns, villages and parishes all show a substantial recent increase in population and the influence of the metropolis, economically and socially is paramount. Any development on this side can only be adding to the metropolis. On the side remote from London the towns, villages and parishes have a stable or falling population with the exception only of a small number of urban growth areas. The line is, of course, moving outwards. At what rate it is moving we do not know but if the proposals for preventing much increase in London are successful, then it may be that the line will remain comparatively stable for a considerable time to come.

173 The position of the line in relation to the study area is important. Its position suggests that the eastern part is unsuitable for a major planned population increase.

Indeed, the pressure for housing development all along the eastern edge of the study area is already very great and it seems difficult to prevent a westward expansion of the urban development along the Kennet Valley, leading to link Reading to Newbury. Certain proposals in this connection are made in chapter 8 of this report. Confirmation of this conclusion can be derived also from the studies of the capacity of the Berkshire County Development Plan which have been carried out by the County Planning Officer (44). Broadly speaking, these show that a continuation of the current rate of housebuilding to satisfy immigrants and natural increase alone will exhaust the supplies of land allocated for development in the Development Plan at some point in the mid-1970s.

154 The conclusion, therefore, would appear to be that the Kennet Valley east of Newbury is too near London to be an appropriate place for establishing a major new population centre.

175 West of Newbury any major development would run the risk of hastening the westward extension of London's influence and it would not be possible to guarantee that the new city would remain outside the area of metropolitan dominance. Unless there are compelling reasons for siting part or all of the development in the upper Kennet Valley this area also should be avoided. The areas available for construction of the new city are also limited by a number of constraints. First of all, there are areas of outstanding natural beauty as defined in Sylvia Crowe and Associates' report (47). We have discussed the proposals in great detail with Sylvia Crowe and Associates. We have ourselves studied the area closely, we have walked and driven through it at various times of the year and have several times flown over it so as to see it from the air. We are fully convinced that the areas of downland must indeed be preserved. The case for preservation has been fully made out on grounds of natural amenity and these areas are so outstanding in quality that they should not be invaded by development. Further, we believe that the growing population of the region will need access to large areas of open country for relaxation and recreation, and proximity to these areas will be one of the major attractions for life in the area. We consider that it would be quite wrong to envisage a major injection of new population into the area, as proposed in the terms of reference, without at the same time taking steps to preserve the open country in the neighbourhood. We are therefore making proposals in chapter 8 of this report for a landscape preservation policy which will go beyond what has so far been done in these matters.

176 The study area includes large areas of land of high agricultural quality and these are described in Professor Whithamley's report (48). Clearly it is desirable to select sites where the agricultural value of the land is low, but it is apparent that wherever the new development may be located, it will have to take some agricultural land. It will therefore be necessary to mitigate the loss of some agricultural land, if new urban development is to take place in the area at all. However, the choice of sites must clearly be made so as to take in as little good agricultural land as possible. Some of the area is affected by flooding and some of it contains important gravel deposits which must be left available for exploitation. We consider that most of the areas subject to flooding, areas with gravel deposits, land of high agricultural quality and areas of landscape value should be regarded as excluded from the areas on which a new city can be built. In chapter 4 it has been shown that there are three areas which may be considered as possibilities for urban development (49). These are an area around Newbury, an area in the vicinity of Abingdon and Didcot and the Swinscoe area.

177 From earlier discussion it has appeared that the proximity of the expanding edge of the metropolitan region makes development at the eastern side of the study area undesirable. This in our view rules out altogether the possibility of planning a large new city at Newbury, despite the fact that there is land available for the purpose. Yet Newbury will undergo expansion as a result of the natural increase in population and it seems likely that there will ultimately be urban development along the Kennet valley between Newbury and Reading. It appears that in the interests of the preservation of the natural landscape and recreation resources large scale development westward of Newbury along the Kennet Valley should be prevented. There are also strong long term agricultural objections to urban development over most of the area west of Newbury.

178 We next consider the area around Abingdon, Didcot and Wokinga. Here there is some land available for development and a good deal of the area surrounding these towns has little remaining landscape value at the present time. However, the land available is interrupted by existing developments, by areas of exceptionally high agricultural value, by gravel deposits and by areas liable to flood. Some of the agricultural land is used for highly specialised purposes, including horticulture and market-gardening. These are highly productive and should not, if possible, be disturbed. The available land is too fragmented to lend itself to a major new urban development. The Abingdon/Didcot/Wokinga area is also relatively poorly placed in relation to transport. It does enjoy a good rail connection but

is remote from the line of the M4 motorway and from the possible future north-south motor road. Therefore any major development in the area would involve considerable expense in highway construction to link it with the trunk motorways.

178 We think the desirable future for Abingdon/Didcot/Wantage would include a fair degree of planned growth taking advantage of the available land but that this growth should be limited in extent. Detailed proposals as to the extent and nature of this growth will be found in chapter 8. We anticipate that this is an area which will be capable of taking more than its own share of the natural interest for the study area as a whole. If it does so, it can relieve the pressure for growth on other towns and villages, including Faringham, Wallingford and Oxford itself, where on amenity grounds development is undesirable. In performing this role, however, this area will have absorbed as much as it should properly take and therefore will not be able to contribute substantially to the planned increase of population for the study area.

180 The western portion of the study area north of the M4 may be considered in two parts. Landscape considerations rule out the country as far as the northern escarpment of the Downs. For the reasons set out by Sylvia Crowe and Associates the low ground immediately at the northern foot of the Downs has special visual value and development should be kept some way north of this area.

181 It is clear therefore that the major urban development contemplated by the terms of reference can only be located within the Upper Thames Valley. The case for this conclusion rests in a number of arguments each of which points to the Swindon area as most suitable for the proposed development.

182 As has been shown earlier the western part of the study area is the proper place for the development in terms of its relationship to London and the other cities in the region. With the Downs as a low density zone preserved for its landscape value and scenic beauty, the Upper Thames Valley could be expected to remain fairly clear of the influence of London. The area is also a fair distance from Bristol, which is the other nearest higher order centre.

183 The transport arguments also point overwhelmingly towards Swindon as the only point in the study area where east-west and north-south trunk roads and the main railway have all access. In the South East Study it was proposed that a new city should be sited at or near Newbury. The main reason for this suggestion



-  Proposed motorway
-  Possible route of a North-South motorway
-  Main road
-  Proposed road link to Oxford
-  Main railway lines



was that the north-south trunk road joining Southampton to Birmingham was then thought of as running along the present line of the A34 road which passes directly through Newbury. However, the terms of reference under which the present study was commissioned deliberately enlarged the area under consideration in a westward direction as far as and including Swindon. Elsewhere in this report the main roads and the various possible lines for a major north-south route of motorway standard are discussed (§2). It appears from this discussion that there is a strong case for planning the main north-south road link to connect with the M5 motorway at Twickenbury/Cheltenham. This would substantially reduce the amount of new road construction involved, it would further have the advantage that the M5 already has a satisfactory entrance into the Birmingham conurbation. Should this prove to be the best way to develop the road connection between Birmingham and Southampton then the major cross-roads between the M4, running east and west, and the new north-south route would not be near Newbury but close to Swindon, the western end of the study area. The arguments advanced in the South East Study for siting a new city at Newbury would then apply to siting it at or near Swindon.

184 Good road transport will also be an important consideration in the choice of sites for development. Under the present proposals for British Railways the line to be developed is that running from Reading along the north of the area of study through Swindon to Bristol and South Wales. From the point of view of railway connections, therefore, the best siting for towns will be along the northern boundaries of the study area, running from Didcot to Swindon.

185 Map 21 shows the main railway lines and the M4 motorway with a dotted line indicating a possible route of a north-south link running from Southampton to connect with the M5 motorway at Twickenbury/Cheltenham. The only point at which all three of these communication routes cross is at Swindon.

186 Consideration of the areas of high landscape value and of agricultural land of high significance also points to the Upper Thames Valley and Swindon area,

187 The evidence of Swindon's vigorous economic growth in recent years points to the viability of this area for continued expansion. In addition numerous advantages are offered particularly in the early phases of construction by relating the new development to an existing and growing settlement like Swindon, through using existing resources, infra-structure and services.



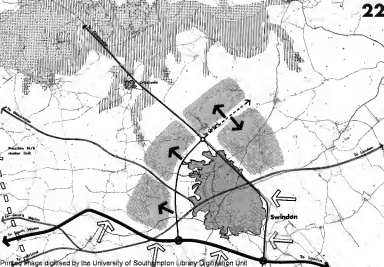
188 It is also our view that development at Swindon can be helpful in relation to the problems of Oxford. Swindon is near enough to Oxford, given a good new road link, to draw off some of the pressure in industrial development from the immediate neighbourhood of Oxford itself. The proximity of Oxford, again given a good road link between the two cities, could also assist and support the life of a new city in the Swindon area.

189 All the indications point to a concentration of urban development in the Swindon area leading eventually to the establishment of a new city of which Swindon would be part and whose eventual population would be of the order of 300,000 to 400,000.

190 It now remains to consider the form that the development should take and its relationship to Oxford/Abingdon and the existing settlements in the Upper Thames Valley.

191 The conclusion has been reached that the Swindon area is the most suitable for concentrated population growth within the study area. Allowing for appropriate expansion in other areas where suitable land for development is available, an act out in greater detail in chapter 3, it appears that the whole of the planned population growth should go to the Swindon area. This means an increase in population of between 125,000 and 150,000 by 1981 and up to 200,000 by some future date. Thus the new population between now and 1981 is already substantially greater than the present population of Swindon and the total development would result in an urban area about four times the present size of Swindon. Using current standards of density in recently planned new towns, it appears that the amount of land required for the full development will be between thirty and thirty-five square miles. More than sufficient land is available for this purpose around Swindon without infringing areas of landscape value or taking land of high agricultural quality.

192 The available land lies on an arc extending from east through north to west of the present town of Swindon. Development to the south is effectively barred by the proposed M5 motorway. It would be most undesirable to develop a new city which was bisected by the motorway. Further expansion southwards towards the foot of the Downs would also be objectionable on landscape grounds. The available land to the east and north of Swindon is limited but there is room for more or less unlimited development towards the north-west and west. Due north an area liable to flooding from the Thames is seen reached and there are also important gravel deposits north of Swindon which must be left free for extraction. These restrictions reduce the space for development due north to a belt of about four miles wide. To the east expansion is limited by landscape considerations. To maintain the views extending from the Downs to the Cotswolds as recommended by Miss Sylvia Crowe, the limit to eastward development would be about four miles from Swindon. The agricultural value of land to the east of Swindon is markedly better than that to the west. A belt of agricultural land of above average



Development pattern 1 : In an arc extending from east through North to West

quality extends eastwards from Swindon and some of this would be lost if any substantial development took place in this direction. There is also a small patch of well above average quality land near Highworth about five miles from Swindon. West and north-west of Swindon the agricultural value of much of the land is below average and as Professor Witherley has pointed out the farm structure in this area is not good.

193 Taking into account the restrictions described above it would appear that there is not sufficient room for the whole long term expansion to take place in a mainly easterly or north-easterly direction. Only about half the area needed could be found in this direction without diminishing the landscape amenity and this would involve loss of some above average agricultural land. West and north-west however there would be room for the whole of the projected development up to a total population of 484,999 to be accommodated. This could take the form of a fairly concentrated development west and north-west or a narrow, more linear development running in a westerly direction just north of the line of the M4 motorway. Thus there are three principal alternative ways in which the projected expansion could take place:

In an arc extending from the east through the north to the west (Map 22)

in a broad band extending north-west and west (Map 23)

in a linear form extending due west (Map 24)

194 In considering the advantages and disadvantages of these three alternatives account must be taken of the urban form appropriate to the development and to the main road structures which the form will imply. Consideration must also be given to the regional implications of developing in these different directions.

195 Map 21 shows the main road pattern which any major new development in Swindon is likely to involve. Perhaps the most important element is the road link with Oxford. The present road from Oxford to Swindon is already somewhat inadequate for its traffic and the expansion of Swindon is bound to make necessary a improved road. A good road connection between the Oxford and Swindon areas will be a great benefit to both. From the point of view of the Oxford area such a road would assist the development of science-based industry in the Swindon area and reduce the present strong pressure for such developments at Oxford itself.

Proposed motorway

Possible route of a North-South motorway

Main roads

Proposed road link to Oxford

Main railway lines

Areas liable to flood

Areas with gravel deposits

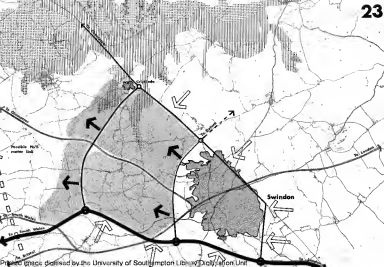
Existing Swindon

Major expansion area

Direction of growth

Edges of development





Development pattern B is a broad band extending North-West and West.

- Proposed motorway
- Possible route of a North-South motorway
- Main roads
- Proposed road link to Oxford
- Main railway line
- Areas liable to flood
- Areas with gravel deposits
- Existing Swindon
- Major expansion area
- Direction of growth
- Edges of development

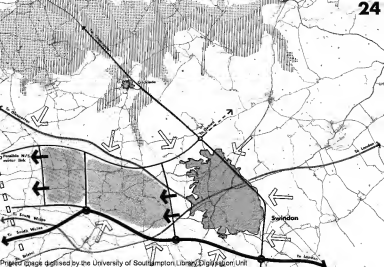


From the point of view of Swindon a good connection with Oxford will make available to the people of Swindon the social and cultural amenities which a university city such as Oxford is able to offer. The other important regional route is on the line of the Roman Road passing Swindon on the east and connecting it with Gloucester in the north-west. This route will also clearly need to be improved if there is to be an important development at Swindon. These two roads taken together, and properly linked to the motorway, form the bones of the transport network around which developments at Swindon have to be planned.

184 A further consideration may be the north-south motorway linking Southampton to the Midlands which has been discussed earlier in the report. It is not certain that this motorway will be built in the foreseeable future, nor has its line yet been studied. If, however, it should come into existence then for the reasons explained in chapter 4 it may pass fairly close to Swindon in order to connect with the M5. If it does, the most likely line appears to be somewhere to the west of the existing town. As far as the present proposals are concerned the main effect of this possible motorway would be to limit the new development to a westerly direction and direct it to the north-west. In order to safeguard the possibility of adequate development it would be desirable that the motorway should be sufficiently west of Swindon to allow sufficient room for development.

185 The available land north-west of Swindon is cut across by the existing rail line from Swindon to Gloucester. The first two of the three alternatives, shown in Maps 22 and 23, involve building on both sides of this railway line. If either of these alternatives is adopted then it will be important to have frequent road crossings over or under the line. Fortunately the topography of the site is such that the line is frequently in cuttings or embankments so road crossings will not present insuperable engineering difficulties.

186 The urban form proposed for all three alternatives is derived from consideration of the relationship of the new development to the existing town of Swindon. As the first phase of the development involves bringing in a new population equal to that of present day Swindon and the ultimate development will lead to a population four times that of Swindon, it is clear that a simple concentric development working outwards from the present town, as shown in Map 22, would not be a satisfactory solution. A concentric urban form would mean that the new developments would all depend on the existing town centre of Swindon for central functions. The scale of development is such that the present central area of Swindon could not meet



Development pattern B1 is a linear form extending due West



the demands of such a massive new population. To rebuild it so that it could handle four times the present demand on its services would involve wholesale destruction of much comparatively modern building and impossibly expensive railway developments, with major new roads cutting through the existing fabric of Swindon. But on the other hand it would be wrong to develop any single major new centre with the idea that this would eventually take over all central functions for the expanded city, thus depriving the present flourishing centre of Swindon of its role. To meet this dilemma one solution might be the development of a number of new urban units each about the same size, or perhaps slightly smaller than, the existing town of Swindon. Each of these units would have a central area which would provide a certain amount of central function for the population in the unit.

199 But none of these centres would provide all of the amenities or facilities used by the whole of the new city. Each centre would have certain facilities and services which would be used by the others. Thus each new community would be partially self-contained but would partly use, and partly reinforce, the facilities already available in central Swindon.

200 The ultimate form of the new city would be a closely linked group of communities each with a sub-centre but dependent on each other for the full range of amenities necessary for the city as a whole. A solution on these lines requires the whole city to be compact so the various sub-centres should be close enough to one another to serve the whole population. Further, one of the advantages of a development based on a vigorous existing town such as Swindon is that during the process of development the services and amenities in Swindon will help to support the new population from the beginning.

201 Taking into account the main transport routes and supposing that an urban form of the type suggested above might form the basis for the development, we can now compare the three alternative sites shown in Maps 22, 23 and 24. Map 22 shows the development in a wide area from east to west. This results in the most compact final city. It is, however, open to objections. First any development to the east takes at least some agricultural land of above average quality, which it would be desirable to avoid if possible.

202 Secondly, the sites for new development are some distance from the line of the M4 motorway, and the existing town of Swindon lies between them and the



motorway. Thirdly, it might be argued from the point of view of broad regional policy that development to the east along the road to Oxford should be discouraged. Development to the east is inevitably development in the direction of London, and might eventually set up very strong pressures for urban development between Oxford and Swindon, in areas which for landscape reasons should be preserved.

263 Map 23 shows the development in a north-westerly direction. This is less compact than the scheme shown in Map 22 but development in this area would still give a compact urban area. The land available for development is broad enough to give plenty of freedom and flexibility in planning. The main disadvantage of this area is the fact that it is bisected by the Swindon-Gloucester railway line. This line would clearly present some problems in detailed planning. Further, the total development includes small areas near Cricklade which are liable to flood. But these would not be by any means insuperable. From the regional point of view development in this direction would tend to emphasise the link between Swindon/Gloucester and the northern area of the Severn. If the north-south motorway is eventually constructed it would probably run parallel to the proposed development, and would not limit its extent.

264 Map 24 shows a linear development. The resulting city would be less compact than those resulting from the developments previously described, but could work well if good communications are provided along its length. As development would run parallel to the M4 motorway, each new urban unit would be easily connected to the country's trunk road system. If the north-south motorway is built, then a western limit will be set to the development of the linear city at some point in the future. The regional implications of this development would be to emphasise the route of the M4 as a link between Swindon, Bristol and South Wales.

265 These three alternatives appear to us to be all worthy of consideration in due course when a decision regarding a major development in the Swindon area is taken. At the present stage there is insufficient evidence to make a final decision between them. On balance we consider that the proposal shown in Map 23, making use of a broad belt of land to the north-west, appears to be the best.

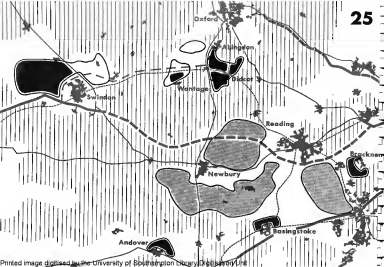
266 The principal purpose in putting forward these ideas is to show that there is a range of possibilities for the development of a great new city based on Swindon, that the proposal can offer opportunity for new thinking in urban development and design.

107 The proposal made in this report for a major development in the area of Swindon only takes care of the planned expansion envisaged under the terms of reference. Reference to Table 1 (81) shows that between now and 1981 the predicted total increase in the area through planned expansion is 125,000. Our proposal is that this should all be accommodated in the Swindon area, together with Swindon's own predicted increase through population change of 14,000.

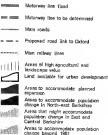
108 In chapter 5 we discussed the increase of population in Berkshire due to 'population change' and indicated some of the factors affecting its distribution (83). The study area includes the whole of 'Berkshire Outside the Metropolitan Region' for which the South East Study envisaged a population change of 50,000. When discussing the possible distribution of this 50,000 increase we took into account the pattern of growth and decline in the area since the war. This pattern is characterised by growth at Abingdon/Tidworth and Newbury and by a decline of population in the agricultural areas.

109 Decisions regarding the allocation of land to accommodate the population change must also take account of agricultural and landscape values. These have been fully discussed in chapters 4 and 5 where we concluded that on these grounds a large part of the study area should be protected from urban development (54). Map 25 shows these areas.

110 Map 25 also shows the areas to be considered when allocating land to accommodate population change in Berkshire. These areas are free from the major physical constraints discussed in chapter 4 and shown on Map 14. It will be seen that there are comparatively small areas near Abingdon, Didcot and Woking and a comparatively large area near Newbury, the great bulk of it being east of Newbury, between Newbury and Reading. We recommended that the land which might be available for development near Newbury should not in fact be developed between now and 1981. Our principal reason for arguing that this area should not



Land use proposals in the study area



be built up is that a population increase between Newbury and Reading would be in effect an extension of the outer metropolitan region beyond its present boundaries, as established in our demographic study (14). Such an expansion of the metropolitan area towards Newbury would in our view be totally contrary to the strategy advocated in the South East Study. The principal aim of this strategy is precisely to prevent the expansion of the metropolitan area which would lead to an increase in the population commuting into London, with consequent increasing pressure on the already over-loaded transport and central facilities of the metropolis.

E11 To permit heavy expansion between Reading and Newbury would undercut the purpose of the main development at Swindon, which is to draw off the population increase into a centre which will provide the necessary range of employment and social and cultural facilities to become largely self-contained.

E12 We feel that side by side with a decision to create a new city in the Swindon area a positive policy should be undertaken to prevent population expansion at the edge of the metropolitan region. Apart from this over-riding objection to a big population increase at Newbury on grounds of national policy, we also consider that the present character of Newbury and the surrounding countryside should be maintained as far as possible.

E13 With these considerations in mind we nevertheless feel there is room for some limited development at Newbury and suggest that this might reasonably provide for an increased population of about 14,000. Expansion on this scale would accommodate the natural increase of Newbury itself and of the surrounding villages.

E14 The Abingdon/Didcot area has been shown in chapter 5 (58) to have grown rapidly and there will certainly be pressure for further growth in this area. Careful planning should enable a consolidation and integration of urban development around Abingdon and Didcot to take place without damage to the amenity of the area. There is also an opportunity, with very careful planning, for some further development of Wantage. This will need to be limited in extent and carefully designed in order not to interfere with the areas of high landscape value close to Wantage. On the basis of a preliminary study of the area we consider that about 44,000 of the population change could take place in carefully planned and consolidated development around Abingdon and Didcot and at Wantage. The majority of this expansion would be around Abingdon and Didcot. This population increase of 40,000, together with an increase of 10,000 at Newbury, would enable

the predicted population change in the study area between now and 1981 totalling 54,000 to be accommodated without any expansion to the villages and other small settlements within the area. We would urge that planning policy should be directed to this end.

215 In the demographic study described in chapter 5 (24) it is shown that at the present time there is little or no pressure on most of the smaller villages and settlements west of Newbury. However, the development of a new city around Reading will undoubtedly cause pressure for development in the villages on its periphery. This, we believe, should be resisted. To facilitate this it will be necessary to take account of the need for a wide variety of housing types in the new development at Reading.

216 Apart from the estimates of population increase given in Table 1 for the study area, there is in East Berkshire a tremendous demand for additional development (27). It has been calculated that in East and Central Berkshire, immediately east of the study area, there may be need to provide for an increased population of 16,000 between now and 1981. There is clearly a risk that this demand will set up pressure for the release of land for urban development in the study area, particularly at its eastern boundary near Newbury. For the reasons given at the beginning of the present chapter we believe that this should be prevented. We consider that this increase in population within the metropolitan area should be met by consolidated development within the existing boundary of the area. It appears to us that there is an opportunity south-east of Reading to meet this need.

217 The area around Wokingham and Sandhurst, bounded on the east by Bracknell New Town, and on the west by the river Blackwater, could offer an opportunity for a planned development. In this area the agricultural value of the land is below average. It is already heavily urbanised in a piecemeal and scattered fashion with a population of about 70,000. A study would of course be necessary to determine whether the whole of the expected population increase in the Eastern and Central parts of Berkshire could be accommodated in this area and we recommend that such a study should be undertaken. Once again we must urge that the creeping growth of development westward beyond the present boundaries of the metropolitan area should be resisted. Instead, there should be consolidated development within the area and new, strong, consolidated development at some distance from its boundary, as we have proposed for Reading.

218 The general picture which the present study has thrown up is of an area of great historical, landscape and agricultural significance, at present still largely unspoilt by unsatisfactory urban development, but now threatened by population increase. The dangers inherent in this situation are well illustrated by development in Oxfordshire where post-war development has destroyed the character of large parts of the county (54). We have therefore recommended that the population should be concentrated principally near Swindon and, to a much smaller extent, around Abingdon and Didcot and that post-war development of the countryside and villages should be firmly resisted.

219 The major development at Swindon will affect the whole surrounding countryside. A recommendation for a green belt west of Swindon is in chapter 4 (54). Beyond this there is the question of preservation of the countryside on the Berkshire Downs and in the whole of the Thames Valley. It is our view that parallel with plans for urban development on the lines we have proposed, there should be a study of the landscape of the area with a view to preserving substantial areas of landscape for the future. At the present time much thought is being given to the best means whereby open country can be preserved for recreation and amenity and the precise machinery by which this can be done is under discussion. We recommend that a study should be commissioned to determine which parts of the study area should be protected, by whatever means are appropriate, from further development. We feel that such a study, followed by appropriate action, is a necessary concomitant to our proposals for urban development.

## CHAPTER 2

- (1) 'Estimated population changes' as defined in the South East Study includes natural increase, overspill from London outside planned expansion, migration for retirement and a contingency allowance.

## CHAPTER 3

- (2) Standing Conference on London Regional Planning: Population, Employment and Transport in the London Region, Report by the Technical Panel on the situation up to 1971, with proposals; Agenda Item 8, LRP 349, 25 November, 1966.
- (3) Standing Conference on London Regional Planning: Estimated population growth in the conference area, Report by the Technical Panel; Agenda Item 17, LRP 504, 3 November 1968.
- (4) Ministry of Housing and Local Government: The South East Study 1961-1981; HMSO London, 1964. Table IV, Areas suggested for expansion, page 73 and Table 11, Reception capacity in existing new towns, page 126.
- (5) Ministry of Housing and Local Government: The South East Study 1961-1981; HMSO London, 1964. Table VI, Estimated population changes, excluding planned expansion, South East England outside the conurbation 1961-1981, page 66.
- (6) Ministry of Housing and Local Government: The South East Study 1961-1981; HMSO London, 1964. 'The need to be met', chapter 4, pages 64-65, paragraphs 9-11.

- (7) Ministry of Housing and Local Government: The South East Study 1961-1961; HMSO, London, 1964. Table IV, Areas suggested for expansion, page 13, Note 1.
- (8) Carruthers, Ian: The Classification of Service Centres in England and Wales; *The Geographical Journal* Vol. CXXIII, Part 3, September 1967.
- (9) The present classification has been based on information and data obtained from the following sources:
  - a. Central Register Office: Census 1966, England and Wales; HMSO London.
  - b. Thorpe, P.H: 'Geographers' Marketing Areas Handbook; Geographers Ltd., London 1966.
  - c. Carruthers, Ian: The Classification of Service Centres in England and Wales. *The Geographical Journal* Vol. CXXIII, Part 3, September 1967.
- (10) British Railways Board: The Development of the Major Trunk Routes; BRB, London, February, 1968.
- (11) Motorway pattern is based on information obtained in discussion with the Ministry of Transport officials - March-September 1968
- (12) Report of the Committee of Inquiry into the Major Ports of Great Britain; HMSO, London, September 1963.
- (13) Ministry of Housing and Local Government: The South East Study 1961-1961; HMSO, London, 1964, chapter 13, paragraphs 8-13.
- (14) See "MAIN ROADS AND PROPOSED NEW ROADS" paragraphs 48-55, chapter 4.

#### CHAPTER 4

- (15) This map is based on information obtained from the Office of the Chief



Engineer, Thames Conservancy, Reading, Berkshire.

- (16) Borough of Swindon: Answers to Questionnaire, Local Government Commission for England, May, 1963.
- (17) County of Wiltshire Development Plan, Report and Analysis of the Survey for Swindon Conurbation Area, February, 1962.
- (18) Ministry of Housing and Local Government: The South East Study 1961-1964, HMSO London 1964, chapter 13, paragraph 18, page 74.
- (19) British Railways Board: The Development of the Major Railway Trunk Routes, HMSO, London, February, 1962.
- (20) Ministry of Housing and Local Government: The South East Study 1961-1964, HMSO London 1964, Appendix 1, pages 108-111.
- (21) Based on information obtained through the Ministry of Housing and Local Government about the future of sand and gravel workings in the Middle and Upper Thames General Region, as defined by the Advisory Committee on Sand and Gravel in their report.

#### CHAPTER 3

- (22) General Register Office: Census 1961 England and Wales, County Report Berkshire; HMSO London, 1964.
- (23) General Register Office: Census 1961 England and Wales, County Report Hampshire; HMSO London, 1963.
- (24) General Register Office: Census 1961 England and Wales, County Report Wiltshire; HMSO London, 1964.
- (25) General Register Office: Census 1961 England and Wales, County Report Gloucestershire; HMSO London, 1964.
- (26) General Register Office: Census 1961 England and Wales, County Report Oxfordshire; HMSO London, 1964.

(28) Ministry of Housing and Local Government: The South East Study 1961-1961, HMSO London, 1964. Table VI, Estimated population changes excluding planned expansion, South East England outside the conurbation, 1961-1961, page 88.

(29) Ministry of Housing and Local Government: The South East Study 1961-1961, HMSO London, 1964. Table IV, Areas suggested for expansion, page 72.

(30) Ministry of Housing and Local Government: The South East Study 1961-1961, HMSO London, 1964. Table 11, Reception capacity in existing new towns, page 128.

(31) Standing Conference on London Regional Planning: Population, employment and transport in the London region, Report by the Technical Panel on the situation up to 1971, with proposals, Agenda Item 5, LRP 540, 25 November 1964, Table 11, page 21.

(32) Standing Conference on London Regional Planning: Estimated population growth in the Conference area, 1971-81, Report by the Technical Panel, Agenda Item 17, LRP 544, 3 November 1965, Table 2, page 2.

(33) Standing Conference on London Regional Planning: Population changes in the Conference area, 1961-1971: estimates by age groups for counties, Report by the Technical Panel, Agenda Item 14, LRP 543, 3 November, 1965.

(34) General Register Office: Census 1961 England and Wales, County Report Berkshire, HMSO London, 1964.

(35) See 'POPULATION CHANGES' paragraphs 119-122.

(36) Ministry of Housing and Local Government: The South East Study 1961-1961, HMSO London, 1964, chapter 14, page 84.

(37) East Berkshire = Maidenhead MB, Windsor MB and RD, Cookham RD, EastThames RD (Bracknell New Town).

- (38) Central Berkshire = Wokingham RD, Wokingham RD and Bradfield RD.

#### CHAPTER 4

- (39) See 'PATTERN OF SETTLEMENTS IN THE REGION' paragraphs 23-26.
- (40) See 'RAILWAY ROUTES' paragraphs 34-39
- (41) Report of the Committee of Inquiry into Major Ports of Great Britain, HMSO London, September 1962.
- (42) Premier Ministre Délégation Générale au District de la Région de Paris: Schéma Directeur d'Aménagement et d'Urbanisme de la Région de Paris, 1965.
- (43) See 'POPULATION IN SETTLEMENTS' paragraph 126 and 'THE PATTERN OF SETTLEMENT DISTRIBUTION' paragraphs 37-43.
- (44) See 'Berkshire: Outer Metropolitan Region' paragraph 126.
- (45) See chapter 4, Map 1 for definition of these boundaries.
- (46) See 'LAND ALLOCATIONS' paragraph 119
- (47) See 'LANDSCAPE' paragraphs 79-87
- (48) See 'AGRICULTURAL LAND' paragraphs 70-71.
- (49) See chapter 4, Map 16 which shows an overlay of physical considerations which influence urban development within the study area.
- (50) See 'MAIN ROADS AND PROPOSED NEW ROADS' paragraphs 49-52.

#### CHAPTER 5

- (51) See chapter 5, page 9.
- (52) See 'Berkshire: Outside the Metropolitan Region' paragraph 134 and

- (32) See 'LANDSCAPE' paragraphs 70-107 and 'GENERAL CONSIDERATIONS TO THE FORM OF DEVELOPMENT' paragraphs 175-176.
- (34) See 'POPULATION CHANGE' paragraph 121.
- (35) See 'DENSITY OF POPULATION' paragraph 124 and 'POPULATION IN SETTLEMENTS' paragraph 126.
- (36) See 'POPULATION CHANGE' paragraph 121.
- (37) The Minister of Housing and Local Government has now published revised population estimates 1955-1961 (House of Commons Hansard 22 December 1965, Col. 2123). The revised total for Berkshire is 145,999. The population increase for 1961-64 calculated on the basis of the Minister's latest estimate is 185,665. This shows a 27% increase over the South East Study figure.
- (38) Brett, Lincoln: *Landscape in Distress*; the Architectural Press, London 1965.
- (39) See 'LANDSCAPE' paragraph 107.

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Basingstoke Development Group

Berkshire County Council

Berkshire, Buckinghamshire and Oxfordshire Naturalists' Trust

Board of Trade

Breadfield Rural District Council

British Railways Board

Central Electricity Generating Board

Council for the Preservation of Rural England

Faringdon Rural District Council

Wantage Rural District Council

Location of Offices Bureau

Ministry of Agriculture, Fisheries and Food

Ministry of Defence (Air)

Ministry of Transport

Newbury Borough Council

Newbury Rural District Council

Reading County Borough Council

Reading Municipal Borough Council

Reading Survey

Thames Conservancy

The National Trust

Wallingford Rural District Council

Wantage Rural District Council

Wantage Urban District Council

Wiltshire County Council